

10/782,363

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	139	TRITHIOCARBONATE AND POLYMER	USPAT	OR	OFF	2006/02/22 08:44
S2	640	260/79	USPAT	OR	OFF	2005/11/21 09:59
S3	1	("6031201").PN.	USPAT	OR	OFF	2006/02/15 13:32
S4	384	LAI.IN. AND POLYMER	USPAT	OR	OFF	2006/02/15 13:34
S5	34	S4 AND "2003".PY.	USPAT	OR	OFF	2006/02/15 13:34
S6	0	LAI.IN. AND "2003".IN.	USPAT	OR	OFF	2006/02/15 13:35
S7	0	LAI.IN. AND "2003".IN.	USPAT	OR	OFF	2006/02/15 13:35
S8	11953	LAI	USPAT	OR	OFF	2006/02/15 13:35
S9	2812	LAI.IN.	USPAT	OR	OFF	2006/02/15 13:47
S10	21	US-2520338-\$ DID. OR US-0179623-\$ DID. OR US-3285945-\$ DID. OR US-3285949-\$ DID. OR US-3367992-\$ DID. OR US-3564074-\$ DID. OR US-3770698-\$ DID. OR US-0392849-\$ DID. OR US-4530962-\$ DID. OR US-0476941-\$ DID. OR US-0505551-\$ DID. OR US-0140068-\$ DID. OR US-0157077-\$ DID. OR US-0198510-\$ DID. OR US-5258445-\$ DID. OR US-5280068-\$ DID. OR US-5312956-\$ DID. OR US-5385963-\$ DID. OR US-6380335-\$ DID. OR US-6395850-\$ DID. OR US-6596899-\$ DID.	USPAT	OR	OFF	2006/02/15 13:48
S11	1	("3135716").PN.	USPAT	OR	OFF	2006/02/16 07:41
S12	1	("3179623").PN.	USPAT	OR	OFF	2006/02/16 07:42
S13	1	("3242129").PN.	USPAT	OR	OFF	2006/02/16 07:42
S14	1	("3892819").PN.	USPAT	OR	OFF	2006/02/16 07:43
S15	1	("3928491").PN.	USPAT	OR	OFF	2006/02/16 07:42
S16	1	("4769419").PN.	USPAT	OR	OFF	2006/02/16 07:43
S17	1	("5055515").PN.	USPAT	OR	OFF	2006/02/16 07:44
S18	1	("5140068").PN.	USPAT	OR	OFF	2006/02/16 07:44
S19	1	("5157077").PN.	USPAT	OR	OFF	2006/02/16 07:44
S20	1	("5198510").PN.	USPAT	OR	OFF	2006/02/16 07:45
S21	1	("6153705").PN.	USPAT	OR	OFF	2006/02/16 07:45

EAST Search History

S22	1	("re31310").PN.	USPAT	OR	OFF	2006/02/16 07:46
S23	1161	trithiocarbonate or trithiocarbonates	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 07:47
S24	589	S23 and (vinyl or resin or epoxy or epoxies or resins or resines or polyester or polyesters or polymer or polymers)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 07:48
S25	17	S24 and (tough or toughener or toughened)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 08:12
S26	3	vinyl adj epoxide adj copolymer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 08:14
S27	2955	acrylic and copolymer and polyepoxide	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 08:14
S28	1027	S27 and carbonate	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 08:14
S29	123	S28 and (unsaturated adj monocarboxylic)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/16 08:15
S30	1398	558/243 or 525/107 or 525/117 or 525/525 or 525/535	USPAT	OR	OFF	2006/02/21 13:19
S31	1365	S30 and (polymer or polymers or (vinyl adj ester) or resin or resins)	USPAT	OR	OFF	2006/02/21 13:19
S32	1572	558/243 or 525/107 or 525/117 or 525/525 or 525/535	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/21 13:19

EAST Search History

S33	1537	S32 and (polymer or polymers or (vinyl adj ester) or resin or resins)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/21 13:20
S34	240	S33 and (tough or toughener or toughening or toughened)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/21 13:20
S35	1	S34 and (trithiocarbonate or trithiocarbonates)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/21 13:21
S36	128	S34 and (carbonate or carbonates or thiocarbonate or thiocarbonates)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/21 13:22
S37	75	S36 not ((sodium adj carbonate) or (potassium adj carbonate))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2006/02/21 13:22

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FILE COVERS 1907 - 22 Feb 2006 VOL 144 ISS 9
FILE LAST UPDATED: 21 Feb 2006 (20060221/ED)

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=> S L1 AND POLY?
1758 L1
3807615 POLY?
L2
242 L1 AND POLY?
R3

=> S L2 AND VINYL

3990502 VINYL
399559 VINYL

399226 VINYL
(VINYL OR VINYL)
L3
17 L2 AND VINYL
R1
17 12 AND VINYL

=> D 1-7 IBI B ABS HITSTR

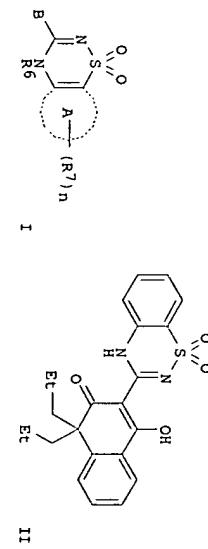
L3 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005-434400 CAPLUS
DOCUMENT NUMBER: 142-63369
TITLE: Preparation of fused thiadiazinediones, particularly dioxothiadiazinylphthalenes, as antiviral agents for the treatment of infections involving RNA-containing viral species such as hepatitis B and C and HIV

INVENTOR(S): Hutchinson, Douglas K.; Bellettini, John R.; Betebenner, David A.; Bishop, Richard D.; Borchardt, Thomas B.; Bosse, Todd D.; Cink, Russell D.; Flentge, Charles A.; Gates, Bradley D.; Green, Brian E.; Hinman, Mira M.; Huang, Peggy P.; Klein, Larry L.; Kueger, Allan C.; Larson, Daniel P.; Leana, M.; Robert, Liu; Bachun; Madigan, Harold L.; McDaniel, Keith F.; Randolph, John T.; Rockway, Todd W.; Rosenberg, Teresa A.; Stewart, Kent D.; Stoll, Vincent S.; Wagner, Rolf; Yeung, Ming C.

SOURCE: U.S. Pat. Appl. Publ., 182 PP.
CODEN: USXKCO
Patent
English
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005107364	A1	20050519	US 2004-925072	20040824
PRIORITY APPLN. INFO.:			US 2003-497607P	P 20030825
OTHER SOURCE(S):	MARPAT	142-463769		
GT				



AB Thiadiazinediones I [A = mono- or bicyclic aryl, cycloalkyl, heteroaryl, heterocyclyl; B = (un)substituted 5-oxo-1-cyclopenten-1-yl, 6-oxo-1,3-cyclohexadien-1-yl; n = 0-4; R6 = H, (un)substituted alkyl, alkenyl, alkynyl, R7 = NC, OHC, O2N, oxo, halo, (un)substituted alkyl, alkenyl, alkynyl, acyloxy, alkoxycarbonyloxy etc.] particularly fused dioxothiadiazinyl-substituted naphthalenes such as II and their enolate anion salts, are prepared as antiviral agents for the treatment of infections involving RNA-containing viral species such as the hepatitis B and C viruses and HIV. Alkylation of the phenylacetate with allyl bromide and sodium hydride, hydrogenation of the alkenes, ester cleavage with potassium trimethylsilanato to yield 2-phenyl-1-propynoic acid, conversion of the acid to the acid chloride and acylation of di-Et malonate, acid-catalyzed cyclcondensation, direct amidation of the ester with 2-anisobenzenesulfonamide, and cyclcondensation yields II; treatment of II with aqueous sodium hydroxide in acetonitrile/water yields the enolate anion sodium salt of II. Alkylation [Bis(alkylthiomethylene)cyclohexenediones III (R1 = H (un)substituted alkyl, alkenyl, alkynyl, alkoxycarbonyl, amicarbonyl, R2 = H, (un)substituted alkyl, alkenyl, alkynyl; R1R2 = (un)substituted cycloalkyl, cycloalkenyl, alkynyl, alkynyl; R3, R4 = H, NC, OHC, halo, O2N, (un)substituted alkoxyl, acyloxy, amicarbonyloxy, sulfonyloxy, aminosulfonyloxy, etc.; R3 and R4 may form (with the carbons to which they are attached) an aryl, heteroaryl, cycloalkyl, cycloalkenyl, or heterocyclyl ring; R12, R13 = alkyl, alkenyl, alkynyl] are claimed. Processes for the preparation of I are also claimed. I inhibit hepatitis C viral RNA Polymerase with IC50 values of 2 nm to 500 μM and inhibit hepatitis C replication with EC50 values of between 5 nm and >100 μM. (no data on individual compds.).

IT 2314-48-9, Dimethyl trithiocarbonate
RL: RCT (Reactant), RACT (Reactant or reagent)

(preparation of fused thiadiazinediones, particularly dioxothiadiazinylphthalenes, as antiviral agents for the treatment of infections involving RNA-containing viral species such as hepatitis B and C and HIV)

RN 2314-48-9 CAPLUS
Carbonotriethioic acid, dimethyl ester (9CI) (CA INDEX NAME)

CN

Mes-C-SMe

1.3 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005182643 CAPLUS
DOCUMENT NUMBER: 142:280233

TITLE: Preparation of fused thiadiazinediones, particularly dioxothiadiazinylnaphthalenones, as antiviral agents for the treatment of infections involving RNA-containing viral species such as hepatitis B and C and HIV

INVENTOR(S): Hutchinson, Douglas K.; Bellettini, John R.; Belebenner, David A.; Bishop, Richard D.; Borchardt, Thomas B.; Bosse, Todd D.; Clink, Russell D.; Flentge, Charles A.; Gates, Bradley D.; Green, Brian E.; Hirman, Miria M.; Huang, Peggy P.; Klein, Larry L.; Krueger, Allan C.; Larson, Daniel P.; Leanna, M.; Robert; Liu, Dachun; Madigan, Harold L.; McDaniel, Keith F.; Randolph, John T.; Rockway, Todd W.; Rosenberg, Teresa A.; Stewart, Kent D.; Stoll, Vincent S.; Wagner, Rolf; Young, Ming C.

Abbott Laboratories, USA

PCT Int. Appl., 384 pp.

CODEN: PIXX02

Patent English

PATENT ASSIGNEE(S): SOURCE:

DOCUMENT TYPE:

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

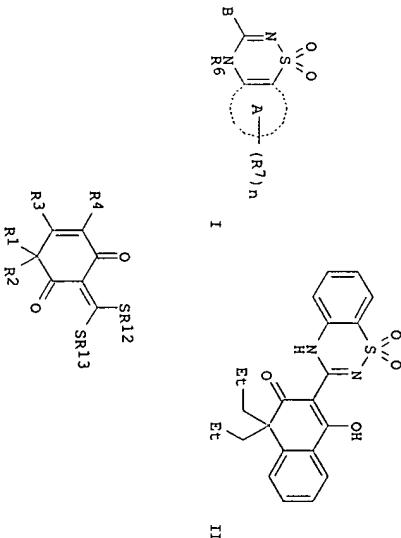
PATENT NO. WO 2005019191
WO 2005019191
A2
A3
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LZ, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MM, MX, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
R#: BW, GH, GM, KE, LS, MR, MZ, NR, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GH, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: MARPAT 142:280233
GI
PRIORITY SOURCE(S): US 2003-647490
A 20030825

IT
IT
RL
RN
CN

2314-48-9 CAPLUS
Carbonotriithioic acid, dimethyl ester (9CI) (CA INDEX NAME)

2314-48-9 CAPLUS
(Preparation of fused thiadiazinediones, particularly dioxothiadiazinylnaphthalenones, as antiviral agents for the treatment of infections involving RNA-containing viral species such as hepatitis B and C and HIV)

2314-48-9 CAPLUS
Carbonotriithioic acid, dimethyl ester (9CI) (CA INDEX NAME)



AB Thiadiazinediones I [A = mono- or bicyclic aryl, cycloalkyl, heteroaryl; B = (un)substituted 1-cyclohexen-1-yl, 6-oxo-1-cyclohexen-1-yl, 7-oxo-1-cyclohepten-1-yl, 6-oxo-1,3-cyclohexadien-1-yl; n = 0-4; R7 = H, (un)substituted alkyl, alkenyl, alkyne, alkynyl, acyloxy, alkoxycarbonyloxy, etc.], particularly fused dioxothiadiazinyl-substituted naphthalenones such as II and their enolate anion salts, are prepared as antiviral agents for the treatment of infections involving RNA-containing viral species such as the hepatitis B and C viruses and HIV. Alkylation of Me phenylacetate with allyl bromide and sodium hydride, hydrogenation of the alkenes, ester cleavage with potassium trimethylsilanolate to yield 2-phenyl-2-propoxypentanoic acid, conversion of the acid to the acid chloride and acylation of di-Et malonate, acid-catalyzed cyclcondensation, direct amidation of the ester with 2-aminobenzenesulfonamide, and cyclocondensation yields II; treatment of II with aqueous sodium hydroxide in acetonitrile:water yields the enolate anion sodium salt of II. [Bis(alkylthiomethylene)enecyclohexenediones III (R1 = H, (un)substituted alkyl, alkenyl, alkynyl, alkoxycarbonyl, aminocarbonyl; R2 = H, (un)substituted alkyl, alkenyl, alkynyl; R12C = (un)substituted Cycloalkyl, Cycloalkenyl; R3 = R4 = H, NC, OHC, halo, O2N, (un)substituted alkoxy, acyloxy, aminocarbonyloxy, sulfonyloxy, aminosulfonyloxy, etc.; R3 and R4 may form (with the carbons to which they are attached) an aryl, heteroaryl, cycloalkyl, cycloalkenyl, or heterocyclic ring; R12, R13 = alky, alkenyl, alkynyl] are claimed. Processes for the preparation of I are also claimed. I inhibit hepatitis C viral RNA Polymerase with IC50 values of 2 nM to 500 μM and inhibit hepatitis C replication with EC50 values of between 5 nM and >100 μM. (no data on individual compds.).

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005019191	A2	20050303	WO 2004-US27000	20040819
WO 2005019191	A3	20050519		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LZ, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MM, MX, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
R#: BW, GH, GM, KE, LS, MR, MZ, NR, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GH, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: MARPAT 142:280233
GI
PRIORITY SOURCE(S): US 2003-647490
A 20030825

IT
IT
RL
RN
CN

2314-48-9 CAPLUS
(Preparation of fused thiadiazinediones, particularly dioxothiadiazinylnaphthalenones, as antiviral agents for the treatment of infections involving RNA-containing viral species such as hepatitis B and C and HIV)

2314-48-9 CAPLUS
Carbonotriithioic acid, dimethyl ester (9CI) (CA INDEX NAME)

S
Me-S-C-Me

L3 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:911305 CAPLUS
DOCUMENT NUMBER: 139:70127
TITLE:
INVENTOR(S): Jing, Naiyong; Van Dyke Tiers, George
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 69 pp.
CODEN: PIKXDZ
Document Type: Patent
Language: English
Family Acc. Num. Count: 1
Priority Info.: MARPAT 139:70127
Priority Source(s):
AB The process comprises contacting a polymer substrate surface, particularly a fluorinated polymer substrate surface, (e.g., ethylene tetrafluoride-propylene hexafluoride copolymer (PFA 6110N)/nylon 12 (Westamid L 2140)), with a photoactive solution containing 21 inorg. photochem. electron donor (e.g., sodium sulfide) and cationic assistant (e.g., tetrabutylammonium bromide) to form an interface; and exposing the interface to actinic radiation. Polymer substrates with modified surfaces are effectively bonded to polymer films to form composite articles.

IT S34-48-9 Sodium thiocarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(photochem. electron donor; process for modifying surface of polymeric substrates with photoreactive solns. containing inorg. photochem. electron donors)

RN 534-18-9 CIPUS
CN Carbonotriethioic acid, disodium salt (9CI) (CA INDEX NAME)
CODEN: JKKXA

S
HS-C-SH

● 2 Na

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
L3 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:424513 CAPLUS
DOCUMENT NUMBER: 138:402661
TITLE:
INVENTOR(S): Hamabe, Hidenori; Ueno, Chie
PATENT ASSIGNEE(S): Kurita Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 7 pp.
CODEN: JKKXAF
Document Type: Patent
Language: Japanese
Family Acc. Num. Count: 1
Priority Info.:
PATENT NO. KIND DATE APPLICATION NO. DATE
WO 2003051966 A1 20030626 WO 2002-US33665 20021021
W: AE, AG, AL, AM, AR, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, MA, MD, MG, MN, MK, MR, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, RU: GH, GM, KE, LS, MM, MW, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TU, TM, AT, BE, BG, CH, CI, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG US 2003159915 A1 20030828 US 2001-22761 20011214
US 6152894 B2 20040622 JP 2003160504 A2 20030603 JP 2001-361343 20011127
AU 2102353851 A1 20030630 AU 2002-333851 20021021 JP 2001-361343 20011127
EP 1461376 A1 20040929 EP 2002-759246 20021021 AB In the polymerization of water-soluble vinyl monomers in aqueous solution chain-transfer agents are added to the solution. Thus, acrylamide was polymerized at 60° for 8 h in H₂O in the presence of (NH₄)₂SO₈ and benzyl dithiobenzoate to give a polymer with Mn 34,900 and Mn/Mn 1.42.
IT 26504-29-0, Dibenzyl trithiocarbonate RL: RCT (Reactant); RACT (Reactant or reagent)
RN 26504-29-0, CAPLUS monomers in presence of reversible addition-fragmentation chain-transfer agents for narrow mol. weight distribution)

CN Carbonotriethioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

Ph-CH₂-S-C-S-CH₂-Ph

L3 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:636508 CAPLUS
DOCUMENT NUMBER: 137:188196
TITLE:
INVENTOR(S): Yamada, Kazuhiko; Kobayashi, Shigeaki; Kaimai, Norimitsu; Takita, Kotaro; Kono, Koichi
PATENT ASSIGNEE(S): Tonen Chemical Corp., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 7 pp.
CODEN: JKKXA
Document Type: Patent
Language: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

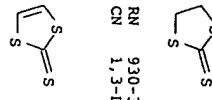
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002237285	A2	20020823	JP 2001-32144	20010208
OTHER SOURCE(S):	MARPAT 117:188196		JP 2001-32144	20010208
AB	The separator has a thin film of ≥ 1 S compound selected from R1SR2 (R1-2 = hydrocarbyl), R3SR4 (R4 = hydrocarbyl; X = 2-5), R502R6 (R5-6 sides of a microporous Polyolefin film. Batteries having the separator are also claimed. Since decomposition of electrolyte solns. is suppressed by the S compound thin film, the batteries have low irreversible anode capacity and good cycling performance.			

IT 822-38-8 Ethylene trithiocarbonate 930-35-8, Vinylene trithiocarbonate

RU: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(separator with S compound thin film on porous Polyolefin film for battery with low irreversible anode capacity and good cycling performance)

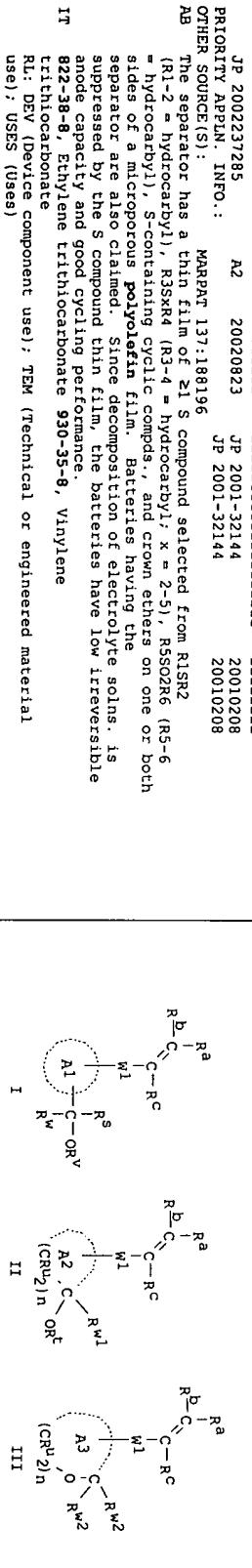
RN 822-38-8 CAPLUS 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)



L3 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002-353400 CAPLUS
DOCUMENT NUMBER: 136-377478
TITLE: Monomers having electron-withdrawing groups and processes for preparing them
INVENTOR(S): Inoue, Keizo
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 137 pp.
CODEN: PRXPZ2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 20030533	A1	20020510	WO 2001-JP9530	20011031
W: JP, KR, US	A1	20030730	EP 2001-983793	20011031
EP 133116	A1	20030327	US 2002-181830	20020723
R: DE, FR, GB	A1	200305910	US 6949615	B2
PRIORITY APPLN. INFO.:		20050927	JP 2000-331602	A 20001031

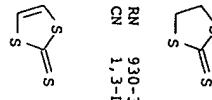
OTHER SOURCE(S): MARPAT 1136:377478 WO 2001-JP9530 W 20011031
GI



AB Monomers I, II or III (A1, A2, A3 = ring; Ra, Rb, Rc, Ru = H, organic group; ≥ 1 of Rs, Rv, and Rv, ≥ 1 of Rt and Rwl, and ≥ 1 of the two Rws = electron-withdrawing group, and the others = H, organic group; W1 = single bond, connecting group; n = 2-25, with the proviso that ≥ 2 of Ra, Rb, Rc, Rs, Rt, Ru, Rv, Rw, Rwl, Rwl, R1, and the constituent carbon atoms of A1, A2, and A3 may be united to form a ring; Rs, Rt, Rv, Rw, Rwl, and Rwl, is a fluorine-containing group or the like) useful as raw material in producing polymers for photoresists are prepared. Thus, 5-[1,1-bis(trifluoromethyl)-1-hydroxymethyl]oxybicyclo[2.2.1]-2-heptene was prepared and polymerized in the presence of AIBN.

IT 930-35-8, 1,3-Dithiole-2-thione (9CI) (CA INDEX NAME)

RN 930-35-8 CAPLUS 1,3-Dithiole-2-thione (9CI) (CA INDEX NAME)



L3 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001-263295 CAPLUS
DOCUMENT NUMBER: 135-46510
TITLE: γ -Irradiation-initiated "living" free-radical Polymerization in the presence of dibenzyl trithiocarbonate

AUTHOR(S): Bai, Ru-Ke; You, Ye-Zi; Pan, Cai-Yuan

CORPORATE SOURCE: Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei, 230026, Peop. Rep. China

SOURCE: Macromolecular Rapid Communications (2001), 22(5), 315-319

CODEN: MRCB3; ISSN: 1022-1336

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

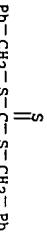
AB The free-radical Polymerization of vinyl monomers in the presence of dibenzyl trithiocarbonate (DBTC) and under 60Co

γ -irradiation is of living character. Under 60Co irradiation, the bonds between benzyl group and sulfur were cleaved, benzyl radicals initiate the polymerization. The propagating radical together with trithiocarbonate radicals form a dormant polymer chain. The fast equilibrium between propagation radical and dormant polymer chain controls the polymerization.

IT
RU: CAT (catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses);
(mechanism of 60Co γ -irradiation-initiated living free-radical polymerization of vinyl monomers with dibenzyl trithiocarbonate)

RN
26504-29-0 CAPLUS
CN
Carbonotrihioic acid, bis(phenylmethyl) ester (GCI) (CA INDEX NAME)

S



REFERENCE COUNT:

28

THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> S 12 NOT 13
1.4
=> S 14 AND (HARD? OR TOUGH? OR TOU? OR HAR?)
557 645 HARD?
94353 TOUGH?
132341 TOU?
852989 HAR?
1.5
1.4 AND (HARD? OR TOUGH? OR TOU? OR HAR?)

=> D 1-8 IBIB ABS HITSTR
L5 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1982-219353 CAPLUS
DOCUMENT NUMBER: 96:219353
TITLE:
INVENTOR(S): Yuyama, Masahiro; Futagami, Mikio
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Fr. Demande, 26 pp.
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. DATE APPLICATION NO. DATE
US 31715337 A 19730206 US 1971-148938 A 19710601
AB PRIORITY APPLN. INFO.:
JP 31715337 A 19730206 US 1971-148938 A 19710601
AB POLYISOCYANATES or poly(isocyanurate-urethanes) were prepared by treating the polyisocyanates with polyols in the presence of Na dodecyl trithiocarbonate [I] [40195-97-9]. Thus, 2.3 g Na in 70 g dipropylene glycol (II) [25265-71-8] was treated with 20.2 g n-dodecyl mercaptan [112-55-0] and 7.6 g carbon disulfide [75-15-0] to give a 20% I solution in II. A polyisocyanate, prepared by treating 10 g Mondur MRS (polymethylene polyisocyanate) [31370-30-2] with 0.2 g of the catalyst solution, cured to hardness after 24 hr at room temperature and after <8 min at 100 deg..

IT
RU: CAT (catalyst use); USES (Uses);
(catalysts, for polyisocyanate preparation)
RN 40195-97-9 CAPLUS
CN Carbonotrihioic acid, monododecyl ester, sodium salt (GCI) (CA INDEX NAME)

1.4
=> S 12 NOT 13

=> S 14 AND (HARD? OR TOUGH? OR TOU? OR HAR?)
557 645 HARD?
94353 TOUGH?
132341 TOU?
852989 HAR?

L5 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1973-160454 CAPLUS
DOCUMENT NUMBER: 78:160454
TITLE:
INVENTOR(S): Allen, Michael George; Tiers, George V. D.
PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co.
SOURCE: U.S., 5 PP.
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. DATE APPLICATION NO. DATE
US 31715337 A 19730206 US 1971-148938 A 19710601
AB PRIORITY APPLN. INFO.:
JP 31715337 A 19730206 US 1971-148938 A 19710601
AB POLYISOCYANATES or poly(isocyanurate-urethanes) were prepared by treating the polyisocyanates with polyols in the presence of Na dodecyl trithiocarbonate [I] [40195-97-9]. Thus, 2.3 g Na in 70 g dipropylene glycol (II) [25265-71-8] was treated with 20.2 g n-dodecyl mercaptan [112-55-0] and 7.6 g carbon disulfide [75-15-0] to give a 20% I solution in II. A polyisocyanate, prepared by treating 10 g Mondur MRS (polymethylene polyisocyanate) [31370-30-2] with 0.2 g of the catalyst solution, cured to hardness after 24 hr at room temperature and after <8 min at 100 deg..

IT
RU: CAT (catalyst use); USES (Uses);
(catalysts, for polyisocyanate preparation)
RN 40195-97-9 CAPLUS
CN Carbonotrihioic acid, monododecyl ester, sodium salt (GCI) (CA INDEX NAME)

PRIORITY APPLN. INFO.:

JP 1980-102187
JP 1980-102188

A 19800724
A 19800724

AB
Alkali metal salts of thio acids, barbituric acids, and/or 1,3-dicarbonyl compds. are catalysts for curing abrasion-resistant hydrolyzed alkoxysilane coatings. Thus, a mixture of partially hydrolyzed (EtO)4Si (20.2% SiO2), 100, Bu acrylate-2-hydroxyethyl methacrylate Polymer 25, and H2NCOSK [74379-20-9] 1 part was coated on Poly(Me metacrylate) [9011-14-7] at 20% relative humidity and baked 1 h at 75° to give a coating with appearance good, crosshatch adhesion 100/100, scratching by steel wool none pencil hardness 7H, and adhesion after 1 h in H2O at 80°/100/100.

IT

534-18-9 CAPLUS
RU: CAT (catalyst use); USES (Uses);
(catalysts for curing of abrasion-resistant siloxane coatings)

S
HS-C-SH

●2 Na

Me-(CH₂)₁₁-S-CS₂H

● Na

L5 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 19671500847 CAPLUS

DOCUMENT NUMBER: 67100847

TITLE: Composition comprising chlorinated butyl rubber and a

curing system

INVENTOR(S): Bannister, Eric; Biggs, John; Coulson, Samuel H.; Greenwood, John; Zapp, Robert L.

PATENT ASSIGNEE(S): Esso Research and Engineering Co.

SOURCE: U.S., 4 PP.

CODEN: USXXAM

Patent

DOCUMENT TYPE:

Language: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----

KIND -----

DATE -----

APPLICATION NO. -----

DATE -----

<p

min. at 311°F. Tests in a Goodrich flexometer showed <1/10th as much permanent set and dynamic drift as in a control stock cured with S, tetramethylthiuram disulfide, and benzothiazoyl disulfide. The improvement in O3 resistance was also impressive.

IT 822-88-8, Carbonic acid, trithio-, cyclic ethylene ester
(as curing agent for halogenated polyolefins)

RN 822-88-8 CAPLUS
CN 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)



L5 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1961-139575 CAPLUS
DOCUMENT NUMBER: 55:139575
ORIGINAL REFERENCE NO.: 55:26530-h
TITLE: Control of mildew
INVENTOR(S):
PATENT ASSIGNEE(S): Farbenfabriken Bayer Akt.-Ges.
DOCUMENT TYPE: Patent
LANGUAGE:
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

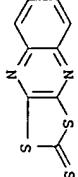
DATE

DE 1100372 19610223 DE

AB Phytopathogenic fungi, e.g. Erysiphe **Polypogon**, E. cichorearum, Oidium tuckeri, Podosphaera leucotricha, Sphaerotheca humuli, and S. pannosa, are controlled by acylation products of 2,3-quinoxalinedithiol (I), 6-methoxy-1, 6-Me-I, 6-chloro-I, and 5, 7-dimethyl-I. Especially active are compds. prepared by treating the H of the SH groups with esters of chloroformic acid or of thiocarboxylic acid chlorides, or with COCl2 or CSCl2. The activity of 6-methyl-1,3-dithiolo[4,5-b] quinoxalin-2-one and some derivs. against E. **polypogon** is described. The products do not harm plants and also have high acaridical activity. 6-methoxy-1,3-dithiolo[4,5-b] quinoxaline-2-thione (9CI) (CA INDEX NAME)

IT 93-75-4, Carbonic acid, trithio-, cyclic 2,3-quinoxalinediyI ester
(in mildew control)

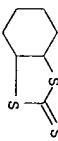
RN 93-75-4 CAPLUS
CN 1,3-Dithiolo[4,5-b]quinoxaline-2-thione (9CI) (CA INDEX NAME)



L5 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1959-7059 CAPLUS
DOCUMENT NUMBER: 53:7069
ORIGINAL REFERENCE NO.: 53:1351b-h
TITLE: Reactions of amines and sulfur with olefins. IV. Chemical and thermal decompositions of olefins. IV.

N,N'-thiobisamines and their reactions with olefins. IV. Saville, R. W. Journal of the Chemical Society (1958) 2880-8
CODEN: JCSO9; ISSN: 0368-1769
Journal

AUTHOR(S):
SOURCE:
DOCUMENT TYPE:



L5 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1959-7059 CAPLUS
DOCUMENT NUMBER: 53:7069
ORIGINAL REFERENCE NO.: 53:1351b-h
TITLE: Reactions of amines and sulfur with olefins. IV.

Chemical and thermal decompositions of olefins. IV. N,N'-thiobisamines and their reactions with olefins. IV. Saville, R. W. Journal of the Chemical Society (1958) 2880-8
CODEN: JCSO9; ISSN: 0368-1769
Journal

LANGUAGE: Unavailable
AB Cf. G.A. 49, 9610c. The procedure of Throedahl and Harman (C.A.

45, 5442g) with (PhCH2)2NH and S2Cl2 gave 92% [(PhCH2)2NH]2S2 (I), yellow needles, m. 79-80° (alc.-petr. ether); morpholine (II) and S2Cl2 gave 82% N,N-disulfide (III), needles, m. 125° (EtOH-EtOCl); and N-ethylpyrazine and S2Cl2 gave 66% N,N'-disulfide (IV), prisms, m. 77-9° (EtOH-MeCO). BNzIClCH2Ph (10 g.) and 5 g. P2S5 in boiling xylene gave 52% PICNSNHCPh (V), m. 84-5°; 3-bromocyclohexene (VI)

and (H2N)2CS gave 69% C6H9SH, b.p. 44°, n20D 1.5200; 2,4-dinitrophenyl derivative, yellow prisms, m. 114-15° (EtOH-H2CO).

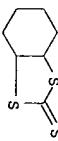
VII and PhNSA in EtOH under N gave C6H9SPh, b.p. 89-90°, n20D 1.5920. The procedure of Clunnean (C.A. 41, 3447a) gave Ph cyclonexyl sulfide, b.p. 111°, n20D 1.5680; sulfone, m. 73-4°.

Cyclohexene (15 g.), 30 g. PICNSH, and 0.1 g. ascaridole refluxed 7 hrs. gave 45% C6H11SCPh (VII), b.p. 88-9°, n20D 1.5556; sulfone, flakes, m. 100-1° (EtOH-petr. ether). 1-Chloro-2-thiocyanato-cyclohexane and Na2S gave a polymer (VIII) and not 1,2-septithiocyclohexane; VII and LiAlH4 gave material, b.p. 148-50°, which contained some 1,2-C6H10 (St) 2. Benzyl 1-methylcyclohexyl sulfide and AcOH gave the sulfone, flakes, m. 100° (petr. ether-EtOH). I (2 g.) and 50 ml. H2SO3 shaken vigorously then kept 2 days at 0° gave 2.7 g.

[(PhCH2)2N]2S4, prisms, m. 143-4° (EtOH); I and warm dilute mineral acids gave S, H2S, SO2, and (PhCH2)2NH and H2S gave a red insol. oil and S. III (11.8 g.) and 12.4 g. P-MeC6H5 mixed at room temperature gave 5.8 g. II and 14.9 g. residue, undistillable at 140°/0.01 mm., which apparently was (P-MeC6H4)2S4; other thiols behaved similarly. I was unaffected by LiAlH4 in Et2O after 2 hrs. refluxing, in refluxing tetrahydrofuran degradation to (PhCH2)2NH, S, and H2S occurred. III (3.0 g.) 2.5 g. MeCN, and 20 ml. C6H6 heated 8 hrs. in vacuo at 140° gave S and bis(α-methylimino-β-morpholinomethyl) sulfide, prisms, m. 150-1° (EtOH); III and PhCICNS gave the benzyl derivative, plates, m. 98% (C6H6). I (9.1 g.) under N kept 24 hrs. at 140 ± 0.1° then treated with EtCOHCl and gave (PhCH2)2NH (VIII) 0.3 g. and 2 g. S heated 24 hrs. in vacuo at 140 ± 0.1° then cooled to -10°. 2 days gave 4.2 g. V and VIII-H2S, m. 32-4° (sealed tube). IV heated 10 hrs. at 140 ± 0.1° in vacuo gave traces of Et(NCCH2C6H5)2NH and S. I and Cyclohexene heated 24 hrs. at 140 ± 0.1° gave V, 2,4-(O2N)2C6H3Me, VIa, PhCH2H2, and [(PhCH2)2N]2S3, m. 109-11° (petr. ether) and other unidentified cyclohexanedithiol derivs.

0.025 mole III stirred at 25° or 65° while diffused with H2S gave varying amt.s. of II. From 25 g. MeCH2C(Me)2CH2C(Me)2 and 12.6 g. III heated 1 hr. at 140° was recovered 10.6 g. III; when the same mixture was refluxed 1 hr. under N while diffused with H2S there was obtained small amt.s. of II and unidentified sulfides and polycyclics. Cyclohexene (<1 g.), 4.8 g. S, and 11.8 g. III, heated 5 hrs. in vacuo at 140 ± 0.1° gave 0.6 g. II, 1.2 g. III, and 10.5 g. polycyclic. The mechanisms of the various reactions involved are discussed.

IT 2164-87-6, Carbonic acid, trithio-, 1,2-cyclohexylene ester (preparation of)
RN 2164-87-6 CAPLUS
CN 1,3-Benzodithiole-2-thione, hexahydro- (9CI) (CA INDEX NAME)



L5 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1959-7059 CAPLUS
DOCUMENT NUMBER: 53:7069
ORIGINAL REFERENCE NO.: 53:1351b-h
TITLE: Reactions of amines and sulfur with olefins. IV.

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005266253	A1	20051117	US 2005-120222 PRIORITY APPLN. INFO.: AB Sythesizing hydrogenated or epoxidized polymer latex	20050507 US 2004-717859P P 20040517

monomer, a polymerization control agent, and an emulsifier, (2) initiating a polymerization to produce a latex of an emulsified polymer, (3) treating the latex with (a) oxidant, such as, oxygen, air or hydroperoxides, (b) reducing agent, e.g., hydrazine or hydrides of hydrazine, and (c) metal ion activator. Thus, styrene 1000, oleic acid 60.0, dibenzyltritylcarbone 7.2, RO (reverse-osmosis) water 4000, potassium persulfate 40.0, tritopassium phosphate 40.0 and potassium hydroxide 16.4 g were stirred and polymerized at 65° for <1.5 h to give a stable and slightly yellow polystyrene latex showing solids 20.6%, Mn 54,000 and PDI 1.17.

exhibiting complex characteristics, as evidenced in the resulting mol. weight distribution, which may be indicative of hybrid behavior. Subsequently we examine the effect of $[TTC]/[ABN]$ for TMC5 and TMG5 and show that lower ratios result in faster **Polymer**, consistent with previous reports. Finally, we demonstrate the ability to form block copolymers with high reinitiating efficiency. These new TCCs thus offer access to the direct synthesis of AB diblock dicarboxylic acid telechelic (**co-Polymer**).

RL: TEM (Technical or engineered material use); USES (Uses)
(control agent: hydrogenation or epoxidn. of polymer
 latex prepared by controlled emulsion polymerization)
RN 26504-29-0 CAPLUS
CN Carbonotrihoic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

$$\text{Ph}-\text{CH}_2-\text{S}-\overset{\text{S}}{\underset{||}{\text{C}}}-\text{S}-\text{CH}_2-\text{Ph}$$

L/ ANSWER 3 OR 49 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2005-1080547 CAPLUS
DOCUMENT NUMBER: 144:23153 Synthesis and Evaluation of New
TITLE: Functional Poly(ether ether ketone)s

SOURCE: CORPORATE SOURCE: Department of Chemistry & Biochemistry and Department of Polymer Science, University of Southern Mississippi, Hattiesburg, MS, 39406, USA
MATERIALS: Acrylacetone, 99%, ACS grade

PUBLISHER: DOCUMENT TYPE:

We report herein the synthesis of three new diacid functional trithiocarbonates (TRTC) in which the substitution pattern about the TRTC functionality is varied and compare their effectiveness alongside examples of previously reported trithiocarbonates as mediating agents in the RAFT polymerization of **Bu acrylate**. For direct comparative purposes we show that at an initial TRTC concentration:initial AIBN concentration [(TRTC)₀]/[AIBN]₀) of 10, 2-(2-carboxyethyl)sulfanyliothiocarbonylsulfanyl-2-methylpropanoic acid (TRTC5) and 2-(2-carboxyethylsulfanyliothiocarbonylsulfanyl)-2-methylpropanoic acid (TRTC6) perform as well as 3-benzyliothiocarbonylsulfanyliothiocarbonylsulfanylpropanoic acid (TRTC3) with respect to kinetics and mol. weight control. In contrast 2-(1-carboxy-1-methyl)ethylsulfanyliothiocarbonylsulfanyl-2-methylpropanoic acid (TRTC7)-mediated homopolymer deviates from "idealized" behavior due, we speculate, to steric crowding of the central TRTC core. Addnl. 3-(2-carboxyethylsulfanyliothiocarbonylsulfanyl)propanoic acid (TRTC4) fails to confer any control on the homopolymer of nBA with the polymerization

NOT PRIOR ART, THOUGH

exhibiting complex characteristics, as evidenced in the resulting mol. weight distribution, which may be indicative of hybrid behavior. Subsequently we examine the effect of [TMC]0/[AIBN]0 for TMC5 and TMC6 and show that lower ratios result in faster **Polymers**, consistent with previous reports. Finally, we demonstrate the ability to form block copolymers with high reinitiating efficiency. These new TMCs thus offer access to the direct synthesis of AB diblock dicarboxylic acid telechelic (*co*) **polymers**.

15238-05-9P

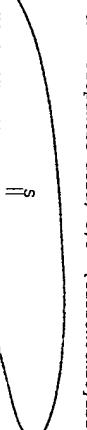
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and evaluation of new dicarboxylic acid functional
triiocarbonate RAFT agent)

RN 15238-05-9 CIRIUS
Propanoic acid, 3, 3' - [carbonothiobis(thio)]bis- (9CT) (CA INDEX NAME)

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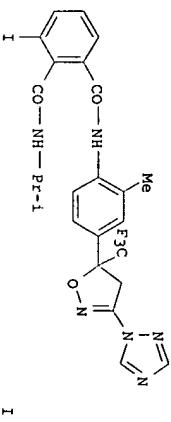
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

RECEIVED IN LIBRARY
DOCUMENT NUMBER:
TITLE:
Compositions containing benzamilides and their
applications as medicaments

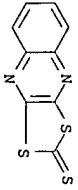
INVENTOR(S): Iakini, Shinji
PATENT ASSIGNEE(S): Nissan Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 190 pp.

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005272443	A2	20051006	JP 2005-38603	20050216
PRIORITY APPLN. INFO.:			JP 2004-46912	A 20040223
OTHER SOURCE(S):	MARPAT	143:361659		



RU: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USSR (Uses)
 (isnergistic insecticides, acaricides, nematicides, fungicides, and antibacterial agents containing benzanilide derivs.)
 93-75-4 CAPLUS
 1,3-Dithiol[4,5-b]quinoxaline-2-thione (9CI) (CA INDEX NAME)



●2 Na
 RN 584-10-1 CAPLUS (CA INDEX NAME)



RN 584-10-1 CAPLUS (CA INDEX NAME)
 CN Carbonotriethioic acid, dipotassium salt (9CI) (CA INDEX NAME)

●2 K



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 DOCUMENT NUMBER: 2005-921729 CAPLUS
 DOCUMENT COUNT: 143-387401 CAPLUS

TITLE: Advances in RAFT Polymerization: the synthesis of polymers with defined end-groups

AUTHOR(S): Moad, Graheme; Chong, Y. K.; Postma, Almar; Rizzardo, Elio; Thang, San H.
 CORPORATE SOURCE: CSIRO Molecular Science, Clayton, 3168, Australia

SOURCE: Polymer (2005), 46(19), 8458-8468
 CODEN: POLMAG; ISSN: 0032-3861

PUBLISHER: Elsevier Ltd.

JOURNAL: General Review

PUBLICATION TYPE: English

LANGUAGE: English

AB A review. An overview discussing recent developments in radical polymerization with reversible addition-fragmentation chain transfer (RAFT polymerization). Guidelines for the selection of RAFT agents are presented. The utility of the RAFT process is then illustrated with several examples of the synthesis of polymers with reactive end-groups. Thus, RAFT polymerization with appropriately designed triethiocarbonate RAFT agents is successfully applied to the synthesis of narrow polydispersity carboxy-functional poly(methacrylate) and primary amino-functional polystyrene.

Methods for removing the thiocarbonylthio end-group by aminolysis, reduction and thermal elimination are discussed. It is shown that the thiocarbonylthio end-group can be cleanly cleaved by radical induced reduction with tri-n-butyltinane, to leave a saturated chain end, or by thermolysis, to leave an unsat'd chain end.

IT 15644-49-2. Triethiocarbonate

RL: MSC (Miscellaneous)

(RAFT agent; synthesis of polymers with defined end-groups via RAFT Polymerization)

RN 15644-49-2 CAPLUS (CA INDEX NAME)

CN Carbonotriethioate (9CI) (CA INDEX NAME)

IT 534-18-9. Disodium triethiocarbonate

RL: RCT (Reactant); RACT (Reactant or reagent)

agents for RAFT polymerization of acrylic acid for polymers useful as dispersants and milling aids for mineral materials

RN 534-18-9 CAPLUS (CA INDEX NAME)

CN Carbonotriethioic acid, disodium salt (9CI) (CA INDEX NAME)



REFERENCE COUNT:

86

THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005-471044 CAPLUS

DOCUMENT NUMBER: 143:48318

TITLE:

INVENTOR(S): Leach, Robert M.; Zhang, Jun

PATENT ASSIGNEE(S): U.S. Pat. Appl. Publ., 21 pp., cont.-in-part of U.S.

SOURCE: Ser. No. 821,326.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 2005118280 A1 20050602 US 2004-970446 200401201

US 2004-821326 P 20030409

US 2003-461547P P 20031111

US 2004-821326 A2 20040409

US 2004-568415P P 20040506

AB The wood preservative compns. comprising micronized particles. The composition

comprises dispersions of micronized metal or metal compns. The wood preservative composition comprises an inorg. component comprising a metal compound and organic biocide. When the composition comprises an inorg. component and an organic biocide, the inorg. component or the organic biocide

both are present as micronized particles. When used for preservation of wood, the micronized particles can be observed as uniformly distributed

within the wood and there is minimal leaching of the metal and biocide from the wood.

IT 93-73-4, Thioquinox

RU: BUU (Biological use, unclassified); TEM (Technical or engineered material use); BIOL (Biological study); USES (Uses)

(micronized wood preservative formulations comprising inorg. metal compns. and organic biocides)

RN 93-73-4 CAPLUS 1,3-dithiolo[4,5-b]quinoxaline-2-thione (PCI) (CA INDEX NAME)



L7 ANSWER 8 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005-453896 CAPLUS

DOCUMENT NUMBER: 143:153769

TITLE:

Thermalysis of RAFT-Synthesized Polymers. A Convenient Method for Trithiocarbonate Group Elimination

AUTHOR(S): Restma, Almar; Davis, Thomas P.; Moad, Graeme; O'Shea, Michael S.
CORPORATE SOURCE: CSIRO Molecular Science, Clayton, 3168, Australia
SOURCE: Macromolecules (2005), 38(13), 5371-5374
CODEN: MMOPDX; ISSN: 0024-9297
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

REFERENCE COUNT: 68

THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004-906315 CAPLUS

DOCUMENT NUMBER: 142-74889

TITLE:

INVENTOR(S): Llauro, Marie-France; Loiseau, Julien; Boisson, Fernande; Deloimie, Frederic; Ladaviere, Catherine; Claverie, J.

CORPORATE SOURCE: Service Commun de Resonance Magnetique Nucleaire de la Federation des Polyméristes Lyonnais, FR2315/Centre National de la Recherche Scientifique (CNRS), Vernaison, 69390, FR.

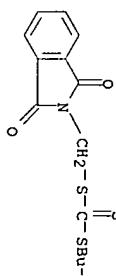
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2004), 42(21), 5439-5462
CODEN: JPACCC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE:

LANGUAGE: English

AB Low-mol.-weight Poly(acrylic acid) (PAA) was synthesized by reversible addition-fragmentation chain transfer (RAFT) polymerization with a trithiocarbonate as chain-transfer agent (CTA). With a combination of NMR spectroscopy and matrix-assisted laser desorption/ionization time-of-flight mass spectrometry, the PAA end-groups of the polymer were analyzed before and after neutralization by sodium hydroxide. The polymer prior to neutralization is made up of the expected trithiocarbonate chain-ends and/or the H-terminated chains issued from a reaction of transfer to solvent. After neutralization, the trithiocarbonates are transformed into thiols, disulfides, thiolactones,



AB Thermolysis provides a simple and efficient way of eliminating trithiocarbonate groups from polymers made by the RAFT (reversible addition-fragmentation chain transfer polymerization) process. For Poly(styrene) with trithiocarbonate chain end group, [-CH2CH2C(=S)S(C(=S)S)], the product is a comparatively inert 1,3-diphenylpropenyl chain end group (-CH2CH=CHPh) which is most likely formed by a concerted elimination mechanism. In the case of Poly (Bu acrylate) with chain end [-CH(CO2Bu)CH2(CO2Bu)-S(C(=S)S)Bu], the analogous elimination product is not observed. The thermolysis product has a macromonomer chain end [-CH(CO2Bu)CH2(CO2Bu)-CH2] which may arise by consecutive C-S bond homolysis, intra- or intermol. transfer, and p-scission. Thermolysis of the polymers was monitored by thermogravimetric anal., 1H NMR, and gel permeation chromatog.

IT 19194-22-9

RL: RGT (Reagent); RACT (Reactant or reagent)
(chain transfer agent in RAFT polymerization; thermolysis of RAFT-synthesized polystyrene for elimination of trithiocarbonate groups from chain transfer agent)

RN 19194-21-9 CAPLUS Carbonotrithioic acid, butyl (1,3-dihydro-1,3-dioxo-2H-isoundol-2-(yl)methyl ester (9CI) (CA INDEX NAME)

CN

and addnl. H-terminated chains. By quantifying the different end-groups, it was possible to demonstrate that fragmentation is the rate limiting step in the transfer reaction.

IT
26504-29-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(unexpected end-groups of poly(acrylic acid) prepared by RAFT polymerization)

RN
26504-29-0 CAPIUS
CN Carbonotrihioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

17 ANSWER 10 OF 49 CAPIUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004-534013 CAPIUS

DOCUMENT NUMBER: 141:87553

TITLE: Controlled emulsion Polymerization

INVENTOR(S): Parker, Dane Kenton; Feher, Frank James; Mahadevan,

Viswanath, The Goodyear Tire & Rubber Company, USA

SOURCE: U.S. Pat. Appl. Publ., 30 pp.

CODEN: USXKCO

PATENT TYPE: Patent English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 2004127634 A1 20040701 US 2003-721718 20031125

US 6592156 B2 20060131

WO 2004060928 A1 20040722 WO 2003-US41104 20031223

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, MA, MD, MG, MK, MN, MM, MX, MZ, NI, NO, NZ, OM,

PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,

TR, TT, TZ, UA, UG, UZ, VC, VN, ZA, ZR, ZW

RW: BW, GH, GM, KE, LS, NM, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,

BY, KG, KZ, MD, RU, RJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,

ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,

TR, BE, BJ, CF, CG, CI, CM, GA, GN, GS, GW, ML, MR, NE, SN, TD, TG

EP 1581562 A1 20051005 EP 2003-814933 20031223

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

US 2005282957 A1 20051222 US 2005-186305 20050721

PRIORITY APPLN. INFO.: US 2003-43754P P 20021231

WO 2003-US41104 A 20031125

WO 2003-721718 W 20031223

The present invention discloses an emulsion Polymerization process that comprises: (1) preparing an aqueous polymerization medium which is comprised of (a) at least one monomer, (b) a polymerization control agent, and an emulsifier, wherein the emulsifier is prepared in-situ within the aqueous polymerization medium, and (2) initiating polymerization of said monomer within the aqueous polymerization medium. The subject invention more specifically reveals an emulsion polymerization process that comprises: (1) preparing a monomer solution which is comprised of (a) at least one monomer, (b) a conjugate acid of a surfactant with a pKa of less than 14, and (c) a controlled free radical polymerization agent; (2) preparing

an aqueous medium which is comprised of (a) water, and (b) a conjugate base of a weak acid wherein the pKa of the base is less than 14; and (3) mixing the monomer solution with the aqueous medium under conditions that result in the in-situ formation of an emulsifier, and (4) initiating free radical polymerization.

IT
26504-29-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(chain transfer agent; surfactant systems for in-situ emulsification in

RN
26504-29-0 CAPIUS
CN Carbonotrihioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

17 ANSWER 11 OF 49 CAPIUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004-174985 CAPIUS

DOCUMENT NUMBER: 140:57772

TITLE: Synthesis of Comblike Poly(butyl methacrylate) Using Reversible Addition-Fragmentation Chain Transfer and an Activated Ester

AUTHOR(S): Vosloo, Johannes J.; Tonge, Matthew P.; Fellows, Christopher M.; D'Agostino, Frank; Sanderson, Ronald D.; Gilbert, Robert G.

CORPORATE SOURCE: Key Centre for Polymer Colloids, School of Chemistry Fil, University of Sydney, Sydney, NSW 2006, Australia

SOURCE: Macromolecules (2004), 37(7), 2371-2382

CODEN: MACROM; ISSN: 0887-624X

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB: Combi-like Polymers of poly(Bu methacrylate)

were prepared using an activated ester-type comonomer (N-acryloylsuccinimide, NAS) to generate branch points. The conventional solution free-radical copolymer kinetics of Bu methacrylate (BMA) and NAS were first investigated by following individual monomer consumption rates by ¹H NMR spectrometry and reactivity ratios of BMA and NAS determined using the terminal model. The reactivity ratios so obtained are both close to 0.2; the joint confidence interval is also determined. Reversible addition-fragmentation chain transfer (RAFT) was

then used to grow polymers with controlled backbone and branch chain length. Because both reactivity ratios have similar values, this implies that the copolymer will have a random distribution of NAS and hence of branch points. RAFT-mediated Polymerization was first used to synthesize linear poly(BMA-co-NAS) chains. Primary hydroxyl-functionalized RAFT agents were then immobilized on this linear poly(BMA-co-NAS) through nucleophilic substitution on the activated ester units of the NAS. From these immobilized RAFT agents, branches were grown upon addition of a further aliquot of monomer (BMA) and initiator (AIBN). The amount of NAS in the starting BMA/NAS composition was varied without adversely affecting the uniformity of the NAS distribution along the resulting linear poly(BMA-co-NAS) backbone. This results in branched polymers whose mol. weight, branching d., and d.p. of branches are all relatively narrow and controlled.

IT
55844-26-TMP

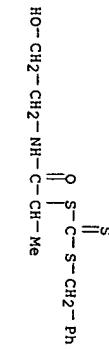
RL: RAFT (Properties); SPN (Synthetic Preparation); PREP (Preparation) (synthesis, mol. weight, and NMR spectra of comblike poly(Bu

[methacrylate] using reversible addition-fragmentation chain transfer and activated ester)

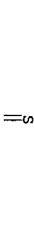
RN

558084-26-7

CAPLUS
Carbonorithioc acid, 2-[2-(2-hydroxyethyl)amino]-1-methyl-2-oxoethyl phenylmethyl ester (9CI) (CA INDEX NAME)



RN 26504-29-0 CAPLUS
CN Carbonorithioc acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE IN THE RE FORMAT
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003-841654 CAPLUS
DOCUMENT NUMBER: 140-81814
TITLE: Cationic polymer flocculating agent with high performance in water treatment and its preparation

INVENTOR(S): Wang, Dong; Zhang, Guojie; Yuan, Jianjun; Zhang, Jinzhi; Cheng, Shixuan
PATENT ASSIGNEE(S): Faming Zhuanni Shengqing Gongkai Shuomingshu, 11 pp.
SOURCE: CODEN: CNKXEV
Filing Date: 2002-11-15
Priority: 2002-11-15
Document Type: GI
Language: Chinese
Patentee: Faming Zhuanni Shengqing Gongkai Shuomingshu, 11 pp.

DOCUMENT TYPE:
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1385376	A	20021218	CN 2002-115977	20020614

PRIORITY APLN. INFO.: GI

AB The cationic **Polymer** flocculating agent having general formula $\text{R}_2\text{Cl}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{C}(\text{Me})-\text{CH}_2-\text{Me}$ (I), where: $\text{R}_2=\text{C}_4\text{-16 alkyl}$ or quaternary NH_4^+ group; $\text{R}_2\text{Cl}-4$ alkyl group; $\text{X}_1=\text{Br}^-$; $\text{X}_2=\text{Cl}^-$; $\text{m}_1=\text{2-105}$; $\text{m}_3=\text{2-107}$; and $\text{n}=2-6$, is prepared by allowing to react (methacryloyloxyethyl)dimethylammonium X_1^- with dimethyl trithiocarbonate, at a molar ratio of $1.0 \times 10^{-2.5} \times 10^{-3}$, in H_2O at $50-10^\circ\text{C}$ for 2-24 h to obtain emulsifier, and then allowing to react with **Polyacrylamide** and (methacryloyloxyethyl)dimethylammonium X_2^- in solvent (such as H_2O , cyclohexane, white oil, avitamin Kerosine, n-BuOH, and/or isoamyl alc.) in the presence of nonionic emulsifier (such as Span-60, Span-20, Tween-20, or Tween-80) and azobisisobutyronitrile) at 50-80 $^\circ\text{C}$ for 5-24 h.
IT 26504-29-0, Dimethyl trithiocarbonate
RU: NU (other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(cationic **Polymer** flocculating agent with high performance in water treatment and its preparation)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The dimerization of aldehydes via their unstable thioaldehydes giving 1,3-dithietanes, which undergo sulfur extrusion to give alkenes is used for a new, general synthesis of tetrafunctional valenes with the **polyvalene** spacers. In the presence of the Lawesson reagent, the 2-(ω -oxopropenylidene)-1,3-dithiol-4,5-dicarbonitriles I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{Cl}^-$; $n = 0-5$] and II [$\text{X}_2 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 0, 1$] and the ω -(1,3-benzo diethoxy-2-yldene) Polyvalene I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1\text{R}_2 = \text{CH}_2\text{CH}_2\text{CH}_2\text{N}=\text{E}$; $n = 0-3$] and II [$\text{X}_2 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1\text{R}_2 = \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{N}=\text{E}$; $n = 0, 1$] can be dimerized via the thioaldehydes. The aldehydes I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 0-5$] and II [$\text{X}_2 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 0, 1$] are obtained by reaction of the unacted dialdehydes (al-E)- $\text{OHC}(\text{CH}_2\text{CH}_2\text{N}=\text{E})\text{CHO}$; $n = 0-5$), 2,7-dimethylocta-2,4,6-dieneal and crocetindialdehyde with 1 mol of 2-thiolo-1,3-dithiole-4,5-dicarbonitrile and 2 mol of triphenylphosphine. The ω -(1,3-benzo diethoxy-2-yldene) Polyvalene I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1\text{R}_2 = \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{N}=\text{E}$; $n = 0-3$] and II [$\text{X}_2 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1\text{R}_2 = \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{N}=\text{E}$; $n = 0, 1$] were prepared by the Wittig reaction of the dialdehydes with 1 mol of 1,3-benzo diethoxy-2-yldene phosphonium unterafluoroborate. Starting from the corresponding aldehydes I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 0-5$] and II [$\text{X}_2 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 0, 1$], the polyvalene tetrafunctional valenes III [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 3$] and IV [$\text{X}_2 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CN}^-$; $n = 0, 1$] with conjugated 16 and 32 polyvalene chains become available, which we call carotenoid and supracarotenoid tetrafunctional valenes. The (benzodithiol-2-yldien) acetaldehyde I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{N}=\text{E}$; $n = 0$] and -butenal I [$\text{X}_1 = (\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $\text{R}_1 = \text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{N}=\text{E}$; $n = 1$] are dimerized to give tetrafunctional valenes III [$\text{X}_3 = \text{bond}$; $(\text{CH}_2\text{CH}_2\text{N}=\text{E})-\text{all}$; $n = 0, 1$] with 4 and 8 methine C-atoms, resp.. In case of

II [X2 = (CH₂)_n-CH₂:CH₂:CH₂:C(Me)H_n-(E)-all; R₁ = CN; n = 0, 1], the Lawesson method fails, the dimer IV [X2 = (CH₂)_n-CH₂:CH₂:C(Me)H_n-(E)-all; R₁ = CN; n = 1] with 16 methine C-atoms can be obtained from II [X2 = (CH₂)_n-CH₂:CH₂:C(Me)H_n-(E)-all; R₁ = CN; n = 1] via the McMurry reaction. The intermediate thioaldehydes can be intercepted by the formation of Diels-Alder adducts with hexachlorocyclopentadiene and hexa-2,4-diene. The redox potentials E_{1/2} of the described polymethinetetrathiafulvalenes are reported.

IT

100510-3, 2-Thioxo-1,3-dithiole-4,5-dicarbonitrile
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation, half-wave reduction potential, and UV spectra of carotenoid and supracarotenoid tetrathiafulvalenes by dimerization of ω -(1,3-dithiol-2-ylidene) polyenals with the Lawesson-reagent)

RN 100510-3 CAPLUS
1,3-Dithiole-4,5-dicarbonitrile, 2-thioxo- (9CI) (CA INDEX NAME)

C#N/C=C\SC=C\SC#N

CN

RN

CN

CN 1625971 A 20050608 CN 2002-827521 20021220
ZA 200404932 A 20050215 ZA 2004-43992 20020624
PRIORITY APPLN. INFO.: AB AU 2001-9708 A 20011221
OTHER SOURCE(S): MARPAT 139:101540 WO 2002-55072 A 20020814
AB The invention provides a method for preparing an aqueous dispersion of polymer particles comprising the following steps: (i) preparing a dispersion having a continuous aqueous phase, a dispersed organic phase comprising one or more ethylenically unsatd. monomers, and an amphiphilic RAFT agent such as an adduct of 2-[1-(2-phenylethoxy)ethylsulfanyl]propanoic acid and acrylic acid-Bu acrylate block copolymer as a stabilizer for said organic phase, and (ii) polymerizing said one or more ethylenically unsatd. monomers under the control of said amphiphilic RAFT agent to form aqueous dispersion of polymer particles, novel amphiphilic RAFT agents for use in this method, novel RAFT agents useful in making these amphiphilic RAFT agents and methods for their manufacture. Use of the amphiphilic RAFT agent allows performing conventional emulsion polymer without need of conventional surfactants.

IT 558484-26-IP, Benzyl 2-[(2-hydroxyethyl)amino]-1-methyl-2-oxoethyl trithiocarbonate
RN (amphiphilic RAFT agent precursor; manufacture of aqueous dispersions of polymer particles using adducts of dithiocarboxylates and amphiphilic RAFT agents)

IT 558484-25-6, CARPLUS HO-CH₂-CH₂-NH-C(=O)-CH₂-Ph

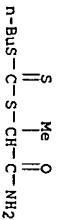
IT 558484-25-6P, 2-Amino-1-methyl-2-oxoethyl butyl trithiocarbonate
RN (amphiphilic RAFT agent precursor; RAFT (Reactant); PRBP (Preparation); RACT (Reactant or reagent))

IT 558484-25-GDP, 2-Amino-1-methyl-2-oxoethyl butyl trithiocarbonate, reaction products with polymers of ethylenically unsatd. monomers
RN (amphiphilic RAFT agent; RCT (Reactant); PRBP (Preparation); RACT (Reactant or reagent))

IT 558484-25-6, CARPLUS (manufacture of aqueous dispersions of polymer particles using adducts of dithiocarboxylates and polymers of ethylenically unsatd. monomers as amphiphilic RAFT agents)

RN 558484-25-6 CAPLUS

CN Carbonotrithioic acid, 2-amino-1-methyl-2-oxoethyl butyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 3

THERE ARE 3 CITED REFERENCES AVAILABLE IN THE RE FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 15 OF 49 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2003-491304 CAPLUS
DOCUMENT NUMBER: 139:0097

TITLE: process for modifying polymer surfaces with inorganic compounds to improved adhesion to other materials

INVENTOR(S): Jing, Naiyong; Van Dyke Tiers, George
3M Innovative Properties Company, USA

SOURCE: PCT Int. Appl., 70 pp.

CODEN: PIXXD2

Patent

English

DOCUMENT TYPE:

LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003051965	A1	20030626	WO 2002-073332	20021021
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MA, MD, MG, MK, MN, MM, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SI, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MR, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG				
US 2003162022	A1	20030828	US 2001-23271	20011214
US 68440330	B2	20030118		
AU 2002360288	A1	20030630	AU 2002-660288	20021021
EP 1453896	A1	20040909	E 2002-795516	20031021
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005111875	T2	20050428	JP 2003-552838	20031021
PRIORITY APPLN. INFO.:				
US 2001-23271				
WO 2002-053332				

AB In the title process, the inorg. compds. are nonvolatile photocem. electron donor salts and are applied as solns. in the presence of actinic radiation. Polymeric substrates with modified surfaces are effectively bonded to polymer films to form composite articles.

Thus, TFP X6307 [tetrafluoroethylene-tetrafluoropropylene copolymer] film was contacted with a glass slide flood coated with a solution containing 0.2 g Na2S·9H2O and 6 g H2O while being irradiated by UV light (λ 254 nm) for 10 min. The resulting treated film exhibited advancing contact angle 78° and peel adhesion 3.5 lb/in after thermally bonded with nylon 12 film.

IT 534-18-9, Sodium thiocarbonate (modifying polymer surfaces with inorg. nonvolatile photochem. electron salts in presence of UV radiation to improved adhesion to other materials)

RN NU: NU (Other use, unclassified); USES (Uses)
(modifying polymer surfaces with inorg. nonvolatile photochem. electron salts in presence of UV radiation to improved adhesion to other materials)

RN 534-18-9 CAPLUS

CN Carbonotrithioic acid, disodium salt (9CI) (CA INDEX NAME)



● 2 Na

REFERENCE COUNT: 5

THERE ARE 5 CITED REFERENCES AVAILABLE IN THE RE FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 16 OF 49 CAPLUS COPYRIGHT 2006 ACS ON STN
ACCESSION NUMBER: 2003-411926 CAPLUS
DOCUMENT NUMBER: 139:8231

TITLE: Water-thinned anticorrosive coatings with good storage stability and steel materials coated therewith

INVENTOR(S): Sakai, Motchiro; Saito, Koichi; Morisita, Atsushi; Takahashi, Akira

SOURCE: Nippon Paint Co., Ltd., Japan; Nippon Steel Corp.

CODEN: JKKXAF

DOCUMENT TYPE:

LANGUAGE:

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003155154	A2	20030530	JP 2001-353753	20011119
PRIORITY APPLN. INFO.:				
AB The coatings contain (a) 5-30% (as solid) water-thinned polymer dispersions, (b) 0.1-20% silica particles, and (c) 0.01-5% guanidine comops. Thus, a water-thinned composition containing (a) a reaction product of Kanebinol KD 5 (acrylic polymer), hydrogenated bisphenol A diglycidyl ether, and 3-glycidoxymethylmethoxysilane, (b) Snortex N (silica), and (c) dipropoxydiphenylaminotitanium, thioacetate, and secondary ammonium phosphate was applied on a galvanized steel plate and baked to give a coated plate with improved adhesion and good solvent and alkali resistance.				
IT 822-38-8				
R: E, Ethylene trithiocarbonate				
IE, ST, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2005111875	T2	20050428	JP 2003-552838	20031021
PRIORITY APPLN. INFO.:				
US 2001-23271				
WO 2002-053332				

AB In the title process, the inorg. compds. are nonvolatile photocem. electron donor salts and are applied as solns. in the presence of actinic radiation. Polymeric substrates with modified surfaces are effectively bonded to polymer films to form composite articles. Thus, TFP X6307 [tetrafluoroethylene-tetrafluoropropylene copolymer] film was contacted with a glass slide flood coated with a solution containing 0.2 g Na2S·9H2O and 6 g H2O while being irradiated by UV light (λ 254 nm) for 10 min. The resulting treated film exhibited advancing contact angle 78° and peel adhesion 3.5 lb/in after thermally bonded with nylon 12 film.



IT 35444-20-3 CAPLUS
CN Carbonotrithioic acid, monoethyl ester, potassium salt (9CI) (CA INDEX NAME)

RN 822-38-8 CAPLUS
CN 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)

● K

L7 ANSWER 18 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003-250866 CAPLUS
 DOCUMENT NUMBER: 138-402225

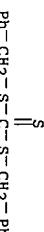
Synthesis and Characterization of Poly(
 acrylic acid) Produced by RAFT
 Polymerization. Application as a Very
 Efficient Dispersant of CaCO₃, Kaolin, and TiO₂

AUTHOR(S): Ioisseau, J.; Doerr, N.; Suaud, J. M.; Egretz, J. B.;
 Llauro, M. F.; Ladaviere, C.; Claverie, J.
 UMR 2142, CNRS/Bio Merieux Systèmes Macromoléculaires
 et Immunobiologique Humaine E.N.S.L., Lyon, 69364, Fr.
 Macromolecules (2003), 36(9), 3066-3077
 CODEN: MAMOXK; ISSN: 0024-9297
 American Chemical Society

PUBLISHER: Journal English

DOCUMENT TYPE: AB Poly(acrylic acid). PAA was prepared by controlled radical polymerization with reversible addition-fragmentation chain transfer. Using trithiocarbonic acid dibenzyl ester and trinicotercarbonic acid bis(1-phenylethyl) ester as chain transfer agents (CTA), the polymerization is controlled for low ratios [RA]:[CTA]. At higher ratios, the polymerization is plagued by transfer to solvent. Transfer to polymer is also detected at high conversion, as shown by the presence of branches in NMR spectroscopy. In its neutralized form, PAA chains are not all terminated by a thiol end group, as shown by elemental, anal., thiol titration, and MALDI TOF MS. Finally, dispersion of CaCO₃, kaolin, and TiO₂ using these PAA reveals that the dispersion characteristics are significantly improved using low-

polydispersity PAA.
 IT 2650-28-0, Diene, trithiocarbonate
 RL: MOA (Modifier or additive use); USGS (Uses)
 (chain transfer agent; preparation of poly(acrylic acid) by reversible addition-fragmentation chain transfer. Polymer
 . . . in presence of)
 RN 2650-28-0 CAPLUS
 CN Carbonotrihioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 19 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003-242025 CAPLUS

DOCUMENT NUMBER: 138-23861

TITLE: Transition metal superoxides as catalysts for free radical polymerization

INVENTOR(S): Benicewicz, Brian C.; Kanagasabapathy, Subbarathy; Sudalai, Arumugam
 Rensselaer Polytechnic Institute, USA
 U.S. Pat. Appl. Publ., 9 pp.

PATENT ASSIGNEE(S): SOURCE: CODEN: USXCO
 Document Type: Patent
 Family Acc. Num. Count: 1
 Language: English

FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2003155541 A2 20030530 JP 2001-333750

OTHER SOURCE(S): MARPAT 139:8228

AB The coatings contain (a) 5-30% (as solid) water-thinned polymer

(b) 0.1-20% silica particles, and (c) 0.01-20% organic titanates. Thus, a water-thinned composition containing (a) a reaction product of

kanebonol KD 5 (acrylic polymer), hydrogenated bisphenol A diglycidyl ether, and 3-glycidoxypropylmethoxysilane,

(b) Snoretex N (silical, and (c) dipropoxybis(trichloroaminotitanium, thiourea, and secondary ammonium phosphate was applied on a galvanized steel plate and baked to give a coated plate with improved adhesion and good solvent and alkali resistance.

IT 822-38-8, Ethylene trithiocarbonate 35444-20-3

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USGS (Uses)

(water-thinned coatings with good corrosion, solvent, and alkali

resistance for steel materials)

RN 822-38-8 CAPLUS (CA INDEX NAME)



CN 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)

RN 35444-20-3 CAPLUS Carbonotrihioic acid, monoethyl ester, potassium salt (9CI) (CA INDEX NAME)

Et-S-CS2H

● K

PATENT NO. KIND DATE APPLICATION NO. DATE
 US 2003060577 A1 20030327 US 2002-102542 20020320

US 6765076 B2 20040720 US 2001-27715P P 20010320
 PRIORITY APPN. INFO.: OTHER SOURCE(S): MARPAT 138:238561
 AB Transition metal superoxides of formula $M(O_2)_n$, where M is a transition metal and n is equal to the valence of M, may be used as initiators for free radical polymerization, optionally, under conditions of living polymerization, with or without chain transfer agents. **Polymers** produced have a narrow mol. weight distribution and low polydispersity indexes when chain transfer agents and/or mol. weight controlling agents are used.
 IT 26504-29-0 RL: NUU (other use, unclassified); USES (Uses)
 (Chain transfer agent; free radical polymerization in the presence of transition metal superoxide catalysts and chain transfer agents)
 RN 26504-29-0 CAPLUS
 CN Carbonotriothioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE IN THE RE FORMAT
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
 L7 ANSWER 21 OF 49 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003-111432 CAPLUS
 DOCUMENT NUMBER: 138:204570
 TITLE: Living-free radical polymerization with reversible addition-fragmentation chain transfer (RAFT polymerization): approaches to star polymers
 AUTHOR(S): Mayadune, Roshan T. A.; Jeffery, Justine; Moad, Graeme; Rizzardo, Ezio
 CORPORATE SOURCE: CSIRO Molecular Science, Clayton South, 3169, Australia
 SOURCE: Macromolecules (2003), 36(5), 1505-1513
 CODEN: MAMOKE; ISSN: 0024-9297
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The synthesis of multiarm star polymers by radical polymerization with reversible addition-fragmentation chain transfer (RAFT) is described. When the precursor RAFT agents to star polymers are trithiocarbonate derived, fragmentation of the radical intermediate can lead to different products depending on the leaving abilities of the two groups attached to sulfur. To demonstrate this, two types of RAFT agents, ones that allow growth of arms away from the core and the other attached to the core during propagation, were designed, and an example of each was synthesized. While both star RAFT agents gave excellent mol. weight control and low polydispersities (typically <1.2), the one that grows its arms away from the core offers polymers free from star-star coupled products. Thus, the direction of fragmentation should be considered when designing efficient star RAFT agents. The living nature of the arms of these polymers was demonstrated by extending the arms with a different monomer to afford a star block copolymer. The RAFT agents described are easily synthesized from com. available reagents by a simple exptl. procedure.
 IT 42764-37-4P RL: PCT (Reactant); SBN (Synthetic preparation); PREP (preparation); RACT (Reactant or reagent)
 (RAFT agent synthesis; living free radical polymerization with reversible addition-fragmentation chain transfer for synthesis of star polymers)
 RN 42764-31-4 CAPLUS
 CN Carbonotriothioic acid, monomethyl ester, sodium salt (9CI) (CA INDEX NAME)

● Na

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 22 OF 49 CAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002-778028 CAPLUS
 DOCUMENT NUMBER: 137:295792
 TITLE: A method of treating the surface of a substrate polymer useful for graft

IT 26504-29-0 RL: CAT (Catalyst use); USES (Uses)
 (Chain transfer agent; in preparation of acrylic acid-Bu acrylate block copolymer by RAFT polymerization)

RN 26504-29-0 CAPLUS
 CN Carbonotriothioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

$\text{Ph}-\text{CH}_2-\text{S}-\overset{\underset{\text{S}}{\parallel}}{\text{C}}-\text{S}-\text{CH}_2-\text{Ph}$

POLYMERISATION
 INVENTOR(S): Kambouris, Peter; Whittaker, Michael; Davis, Tom;
 Blakely, Idriss; Day, Gary
 PATENT ASSIGNEE(S): Polymerit Pty. Ltd., Australia
 SOURCE: PCT Int. Appl., 79 p.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002079305	A1	2002/10/10	WO 2002-AU416	2002/03/28
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UG, VN, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MO, RU, TJ, TM				
RW: GH, GM, KE, IS, KW, MZ, SD, SL, SZ, T2, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, IE, IT, LU, MC, NL, PT, SE, TR, TG, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG				
US 2003038028	A1	2003/05/08	US 2002-109777	2002/03/28
US 6858309	B2			
EP 1383828	A1	2004/01/28	EP 2002-712637	2002/03/28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, ST, LI, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.: AU 2001-4048 A 2001/03/28 W 2002-AU416				

AB Radicals are generated on functional and/or backbone portions of polymers forming part of a solid phase surface and/or sub-surface to generate a substrate for initiation of polymerisation. The polymerisation is conducted in the presence of a control agent which induces dynamic population of anchored growing (in a controlled manner) and dormant polymeric chains each comprising ≥ 2 monomers.

Polymers generated by this process include homopolymers and copolymers (comprising ≥ 2 monomers including terpolymers) such as inter alia block, graft, tapered, crosslinked and branched polymers. The substrate PMA 6100 was irradiated from Co-60 source, treated with TEMPO control agent, washed and dried, and graft polymerised with styrene at 80° for 16 h.

IT 2650-29-0, Dibenzyl trithiocarbonate

RL: CATALYST used; USES (Uses)

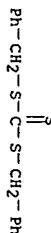
(irradiation of a nonfunctional substrate polymer for graft

polymerisation with styrene in the presence of one or more control

agents)

RN 2650-29-0 CAPLUS

CN Carbonylthioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

1.7 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002-695025 CAPLUS
 DOCUMENT NUMBER: 137-233074
 TITLE: Method for controlled free radical polymerization of acrylic acid and salts thereof, resulting low-polydispersity polymers, and their uses

Sau, Jean-Marie; Graz, Jean-Bernard; Claverie, Jerome; Ladaviare, Catherine; Coatex S.A.S., Fr.

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE: PCT Int. Appl., 107 pp.

CODEN: PIIXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002070571	A1	2002/09/12	WO 2002-FR722	2002/02/28
W: BR, CA, CO, CZ, ID, KR, MX, NO, PL, RU, SK, US				
RU: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
FR: 2621620	A1	2002/09/06	FR 2001-2848	2001/03/02
FR: 2821620	B1	2003/06/27		
CA: 2438158	NA	2002/09/12	CA 2002-2438158	2002/02/28
EP: 1377615	A1	2004/01/07	EP 2002-713002	2002/02/28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
IE, FI, CY, TR				

constant source of gamma radiation - an example of

reversible addition-fragmentation chain transfer or reversible termination?

Quinn, John F.; Barber, Leonie; Davis, Thomas P.;

Thang, San H.; Rizardo, Ezio

Centre for Advanced Macromolecular Design, School of

Chemical Engineering and Industrial Chemistry,

University of New South Wales, Sydney, 2002, Australia

Macromolecular Rapid Communications (2002), 23(12),

717-721

CODEN: MRCOP3; ISSN: 1022-1336

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The primary mechanism for living polymerisation under a source of gamma radiation at low dose rates is shown to be reversible addition-fragmentation chain transfer. This was demonstrated by showing that the initial transfer step dets. the success of the polymerisation when an inappropriate leaving group is chosen for the RAFT agent, the polymerisation is non-living. Under a reversible termination mechanism the "living"-ness should be independent of this initial transfer step.

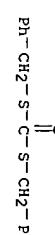
IT 2650-29-0, Dibenzyl trithiocarbonate

RL: RGT (Reagent); RAFT (Reactant or reagent)

(chain transfer agent; addition-fragmentation chain transfer mechanism of living radical polymerization initiated by gamma radiation)

RN 2650-29-0 CAPLUS

CN Carbonotriethioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

1.7 ANSWER 24 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002-695025 CAPLUS

DOCUMENT NUMBER: 137-233074

TITLE: Method for controlled free radical polymerization of acrylic acid and salts thereof, resulting low-polydispersity polymers, and their uses

Sau, Jean-Marie; Graz, Jean-Bernard; Claverie, Jerome; Ladaviare, Catherine

INVENTOR(S):

PATENT ASSIGNEE(S):

SOURCE: PCT Int. Appl., 107 pp.

CODEN: PIIXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002070571	A1	2002/09/12	WO 2002-FR722	2002/02/28
W: BR, CA, CO, CZ, ID, KR, MX, NO, PL, RU, SK, US				
RU: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
FR: 2621620	A1	2002/09/06	FR 2001-2848	2001/03/02
FR: 2821620	B1	2003/06/27		
CA: 2438158	NA	2002/09/12	CA 2002-2438158	2002/02/28
EP: 1377615	A1	2004/01/07	EP 2002-713002	2002/02/28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
IE, FI, CY, TR				

constant source of gamma radiation - an example of

reversible addition-fragmentation chain transfer or reversible termination?

Quinn, John F.; Barber, Leonie; Davis, Thomas P.;

Thang, San H.; Rizardo, Ezio

Centre for Advanced Macromolecular Design, School of

Chemical Engineering and Industrial Chemistry,

University of New South Wales, Sydney, 2002, Australia

Macromolecular Rapid Communications (2002), 23(12),

717-721

CODEN: MRCOP3; ISSN: 1022-1336

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

BR	200207799	A	20040323	BR	2002-7799	20020228	RN	822-38-8	CAPLUS
NO	2003093846	A	20030929	NO	2003-346	20030829	CN	1,3-Dithiolane-2-thione (9CI)	(CA INDEX NAME)
PRIORITY APPN. INFO.:		A1	20040520	US	2003-48398	20031231	FR	2001-2648	
AB	Polymers of acrylic acid or its salts having polydispersity <2 and gel content at conversion >90% are manufactured by free-radical polymerization in the presence of $RXC(SR')$ ($X = O$ or S , R' = a group causing stabilization of RX function by CX, R' = a group such that the R'S bond is a CS bond) as chain-transfer agents. A typical chain-transfer agent was manufacture by reaction of 8.8 g K 2-bromo-2-methylmalonate in water in the presence of Aliquat 336.								WO 2002-FR722
IT	26504-29-0	RN	26504-22-0	CAPLUS	NUU	(Other use, unclassified); USES (Uses) (chain-transfer agents based on dithioesters for acrylic acid and its salts for manufacture of polymers with very low polydispersity)	W	20020228	
RL: NUU	(Other use, unclassified); USES (Uses) (chain-transfer agents based on dithioesters for acrylic acid and its salts for manufacture of polymers with very low polydispersity)								
Ph-CH ₂ -S-C(=S)-S-CH ₂ -Ph		§							
REFERENCE COUNT:	2	THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT							
L7	ANSWER 25 OF 49	CAPLUS	COPYRIGHT 2006 ACS ON STN	L7	ANSWER 26 OF 49	CAPLUS	COPYRIGHT 2006 ACS ON STN	RN	822-38-8
ACCESSION NUMBER:	2002-631892	CAPLUS		ACCESSION NUMBER:	2002-20126	CAPLUS		CN	1,3-Dithiolane-2-thione (9CI)
DOCUMENT NUMBER:	137171126			DOCUMENT NUMBER:	136-02101			FR	2001-2648
TITLE:	Water-thinned coating composition for treating metal surface			TITLE:	Photo-initiated living free radical polymerization in the presence of dibenzyl trithiocarbonate				
INVENTOR(S):	Sasaki, Motohiro; Saito, Koichi			AUTHOR(S):	You, Ye-Zi; Hong, Chun-Yen; Bai, Ru-Ke; Pan, Cai-Yuan;				
PATENT ASSIGNEE(S):	Nippon Paint Co., Ltd., Japan			CORPORATE SOURCE:	State Key Lab of Fire Science, Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei, 230026, Peop. Rep. China				
SOURCE:	PCT Int. Appl. 30 pp.			SOURCE:	Macromolecular Chemistry and Physics (2002), 23(3), 477-483				
DOCUMENT TYPE:	Patent			CODEN: MCHPES; ISSN: 1022-1352					
LANGUAGE:	Japanese			PUBLISHER:	Wiley-VCH Verlag GmbH				
FAMILY ACC. NUM. COUNT:	1	PATENT INFORMATION:		DOCUMENT TYPE:	Journal				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	LANGUAGE:	English			
WO 2002064556	A1	20020822	WO 2002-JP1214	20020214	AB	The polymers of styrene (St), Me acrylate (MA), and Bu acrylate (BuA) carried out under UV irradiation at room temperature in the presence of dibenzyl trithiocarbonate (DBTC) were found to display living free-radical polymerization characteristics as evidenced by: narrow mol. weight distribution, linear increase of mol. weight with increasing conversion, well-controlled mol. weight, and first-order polymerization kinetics. The triblock copolymer, PMA-PSt-PMA, with narrow polydispersity and well-defined structure was successfully prepared using PMA-S-C(=S)-S-PMA as macro-photoinitiator under UV irradiation at room temperature. Based on GPC, NMR and FT-IR analyses, the structures of the polymers were obtained and the mechanism of the polymerization was proposed.			
JP 2002241957	PT, SE, TR	A2	20020828	JP 2001-37605	IT	26504-29-0P, Dibenzyl trithiocarbonate			
PRIORITY APPN. INFO.:				RN	RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses) (preparation of and as photoinitiator in polymerization)				
AB	Title coating composition with good anticorrosion, elec. conductivity, and adhesion			CN	26504-22-0 CAPLUS				
comprises (A) aqueous dispersing resins 5-30 (solids content), (B) silica fine particles (e.g., Snowtex N) 1-10, (C) thiocarbonyl compds. (e.g., thiourea) 0.02-5, and (D) phosphate ions 0.01-0.5 wt%, wherein A are obtained by neutralizing ≥30% of carboxyl groups with potassium ions in an ethylene-waste, carboxylic acid copolymer containing 10-30 wt% of the unseed, carboxylic acid (e.g., Primacor 5901) and then reacting the water-dispersed ionomer resin with epoxy compds. (e.g., Decaol 313).	Ph-CH ₂ -S-C(=S)-S-CH ₂ -Ph		§	RL: MOA (Modifier or additive use); USES (Uses) (as inhibitor in water-thinned coating composition for treating metal surface)					

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 27 OF 49 CAPLUS COPYRIGHT 2006 ACS ON STN

ACCESSION NUMBER: 2001-806178 CAPLUS

DOCUMENT NUMBER: 136-86101

TITLE: Controlled polymerization of acrylic acid under 60Co irradiation in the presence of dibenzyl trithiocarbonate

RL: MOA (Modifier or additive use); USES (Uses) (as inhibitor in water-thinned coating composition for treating metal surface)

AUTHOR(S): Hong, Chun-Yan; You, Ye-Zi; Bai, Ru-Ke; Pan, Cai-Yuan; Borjihan, Gereitu



CORPORATE SOURCE:

Department of Polymer Science and Engineering,
University of Science and Technology of China, Hefei,
230026, Peop. Rep. China
Journal of Polymer Science, Part A: Polymer Chemistry
(2001), 39(22), 3934-3939

SOURCE:

CODEN: JPPACCC; ISSN: 0887-624X

PUBLISHER:

John Wiley & Sons, Inc.

DOCUMENT TYPE:

Journal
English

LANGUAGE:

AB The polymerization of acrylic acid (AA) was performed under ^{60}Co irradiation in the presence of dibenzyl trithiocarbonate at room temperature, and well-defined poly(acrylic acid) (PAA) with a low polydispersity index was successfully prepared. The gel permeation chromatogram and ^1H NMR data showed that this polymerization displays living free-radical polymerization characteristics: a narrow mol. weight distribution ($M_w/M_n = 1.07-1.22$), controlled mol. weight, and constant chain-radical concentration during the polymerization. Using PAA-SC(=S)-S-PAA as an initiator, the extension reaction of PAA with fresh AA was carried out under ^{60}Co irradiation, and the results indicated that this extension polymerization displayed controlled polymerization behavior.

IT 26504-29-0, Dibenzyl trithiocarbonate

RL: CAT (Catalyst use); USES (Uses)

(Polymerization catalyst; controlled gamma ray-induced

polymerization or acrylic acid in presence of dibenzyl

trithiocarbonate)

RN 26504-29-0 CAPLUS

CN Carbonotrihioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

Ph-CH₂-S-C(=S)-CH₂-Ph

REFERENCE COUNT:

36

THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 28 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001-571597 CAPLUS

DOCUMENT NUMBER: 135124136

TITLE: Bactericide combinations in detergents

INVENTOR(S): Elsmore, Richard; Houghton, Mark Phillip

PATENT ASSIGNEE(S): Robert McBride Ltd., UK

SOURCE: Brit. UK Pat. Appl., 53 pp.

CODEN: BAXBDU

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

GB 2354771 A1 20100404 GB 1999-23253

PRIORITY APPN. INFO.: GB 1999-23253 19991001

AB The detergent comprises a bactericide in combination with an anionic, cationic, nonionic or amphoteric surfactant which has a C11-18 alkyl group as the longest chain attached to the hydrophilic moiety. Credemol 50 (hydrogenated ethoxylated castor oil) 50, citric acid 12, formalin 10, sodium alkyl benzene sulfonate (C12-20) alkyl 1, perfume white lime 0.5, detergent enzyme savangate 0.2, and bactericide pr 4-hydroxybenzoate 1.0 parts formed a detergent, showing reduction activity after contact 2. IT 534-18-9 RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); BIOL (Biological study); USES (Uses)

RN 534-18-9 CAPLUS (bactericide combinations in detergents)
CN Carbonotrihioic acid, disodium salt (9CI) (CA INDEX NAME)

$\begin{array}{c} \text{S} \\ || \\ \text{HS}-\text{C}-\text{SH} \end{array}$

● 2 Na

REFERENCE COUNT:

17 ANSWER 29 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001-556450 CAPLUS

DOCUMENT NUMBER: 1351273066

TITLE: A novel approach to triblock copolymers: ^{60}Co γ -irradiation-induced copolymerization in the presence of a trithiocarbonate macroinitiator

AUTHOR(S): You, Ye-Zi; Bai, Ru-Ke; Pan, Cai-Yuan

CORPORATE SOURCE: Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei, Anhui, 230026, Peop. Rep. China

Macromolecular Chemistry and Physics (2001), 202(19), 1980-1985

SOURCE: CODEN: MCHPS; ISSN: 1022-1352

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE:

LANGUAGE: English

AB Triblock copolymers were prepared under ^{60}Co γ -irradiation in the presence of a trithiocarbonate macroinitiator. The triblock copolymers, PST-PMA-PST and PMA-PST-PMA, have well-defined structures, controlled mol. weight and narrow mol. weight distribution. The mechanism of block copolymer is discussed.

IT 26504-29-0, Dibenzyl trithiocarbonate, reaction products with

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);

USES (Uses)

(The acrylate-styrene triblock copolymer preparation by gamma ray-induced polymerization in presence of trithiocarbonate macroinitiator)

RN 26504-29-0 CAPLUS

CN Carbonotrihioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

Ph-CH₂-S-C(=S)-CH₂-Ph

REFERENCE COUNT:

L7 ANSWER 30 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001-463752 CAPLUS

DOCUMENT NUMBER: 135195878

TITLE: Controlled Radical Polymerization of

Acrylic Acid in Protic Media

AUTHOR(S): Ladriere, Catherine; Doerr, Nicole; Claverie, Jerome

CORPORATE SOURCE: ICPP CPE/CNRS 43, Villeurbanne, 69616, Fr.

Macromolecules (2001), 34(16), 5370-5372

PUBLISHER: MMBOX; ISSN: 0024-9297

CODEN: MMBOX; American Chemical Society Journal

DOCUMENT TYPE: English

LANGUAGE: English

AB: Various dithio esters were prepared and screened for their suitability as chain transfer agents in the title polymerization

IT 26504-29-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain transfer agent; controlled radical polymerization of acrylic acid in protic media using dithio compds. as chain transfer agents)

RN 26504-29-0 CAPLUS
CN Carbonotriothioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)



Ph-CH₂-S-C(=S)-S-CH₂-Ph

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE IN THE RE FORMAT RECORD. ALL CITATIONS AVAILABLE FOR THIS

L7 ANSWER 31 OF 49 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001-101125 CAPLUS
DOCUMENT NUMBER: 134:157573
TITLE: Dithiolothione compounds for the treatment of neurological disorders and for memory enhancement

INVENTOR(S): Prendergast, Patrick T.; Armstrong, Paul J.
PATENT ASSIGNEE(S): PCT Int. Appl., 109 PP.

SOURCE: CODEN: PIXD2
DOCUMENT TYPE: patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:
PATENT NO. KIND DATE APPLICATION NO. DATE

WO 200109118 A2 20010208 WO 2000-181146 20000728
WO 200109118 A3 20011122

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, ET, FT,
GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR,
KZ, LK, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MZ, NO, NZ, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZW, AT, BE,
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2000064625 A5 20010219 AU 2000-64625 20000728
US 2003405389 A1 20040318 US 2003-612476 20030702
IE 2000-302 A 1998-145964P P 19980729
IE 2000-304 A 20000413
US 2000-198338P P 20000418
US 2000-627641 B1 20000728
WO 2000-181146 W 20000728

OTHER SOURCE(S): MARPAT 134:157573

AB: The invention provides methods to treat neurol. disorders such as Alzheimer's disease, or slow the progression of such diseases, or to treat and/or prevent other disorders as disclosed in the specification, by administering to patients, or delivering to the tissues of such patients, oltipraz or related 1,2-dithiole-3-thiones. The effects of oltipraz on A₁-A₂ neurotoxicity, oxidative stress, removal of iron from tissues, localization of 8-hydroxyguanosine (predominantly derived from •OH

attack of guanidine), mitochondrial damage as well as its antiprotozoal activity were examined. Synthesis of oltipraz is presented.

IT 930-35-8 1,3-Dithiole-2-thione

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(dithiolothione compds. for treatment of neurol. disorders and for memory enhancement)

RN 930-35-8 CAPLUS
CN 1,3-Dithiole-2-thione (9CI) (CA INDEX NAME)



Ph-CH₂-S-C(=S)-S-CH₂-Ph

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE IN THE RE FORMAT RECORD. ALL CITATIONS AVAILABLE FOR THIS

L7 ANSWER 33 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000-131336 CAPLUS
DOCUMENT NUMBER: 132:18005
TITLE: Reversible addition-fragmentation chain transfer

CORPORATE SOURCE: CSIRO Molecular Science, Clayton South, 3169, Australia
Polymer International (2000), 49(9), 993-1001
SOURCE: CODEN: PIXI2; ISSN: 0959-8103
John Wiley & Sons Ltd.
PUBLISHER: English
DOCUMENT TYPE: Journal

LANGUAGE: English

AB: Free radical polymerization with reversible addition-fragmentation chain transfer (RAFT Polymerization) is discussed with a view to answering the following questions: (a) How living is RAFT polymerization. (b) What controls the activity of thiocarbonylthio compds. in RAFT polymerization. (c) How do rates of polymerization differ from those of conventional radical polymerization. (d) Can RAFT agents be used in emulsion Polymerization. Retardation, observed when high concns. of certain RAFT agents are used and in the early stages of emulsion polymerization, and how to overcome it by appropriate choice of reaction conditions, are considered in detail. Examples of the use of thiocarbonylthio RAFT agents in emulsion and miniemulsion Polym. are provided.

IT 26504-29-0
RL: NUU (Other use, unclassified); USES (Uses)
(chain transfer agent; living free radical polymerization with reversible addition-fragmentation chain transfer)

RN 26504-29-0 CAPLUS
CN Carbonotriothioic acid, bis(phenylmethyl) ester (9CI) (CA INDEX NAME)

Ph-CH₂-S-C(=S)-S-CH₂-Ph

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE IN THE RE FORMAT RECORD. ALL CITATIONS AVAILABLE FOR THIS

L7 ANSWER 33 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

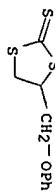
ACCESSION NUMBER: 2000-131336 CAPLUS
DOCUMENT NUMBER: 132:18005
TITLE: Reversible addition-fragmentation chain transfer

IT 10414-73-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and reaction of Polymers bearing 5-membered cyclic
 dithiocarbonate group)

RN

1,3-Dithiolane-2-thione, 4-(phenoxyethyl)- (9CI) (CA INDEX NAME)

CN



L7 ANSWER 36 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994-108062 CAPLUS
 DOCUMENT NUMBER: 120-108062
 TITLE: Preparation of high-molecular-weight
 acrylamide polymers with good water
 solubility

INVENTOR(S): Furukami, Masahito; Nakayama, Michiko

PATENT ASSIGNEE(S): Showa Denko Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

DOCUMENT TYPE:

PATENT

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 05230141 A2 19930907 JP 1992-32196

PRIORITY APPLN. INFO.: JP 1992-32196

AB Title polymers are prepared by polymerization of acrylamide (I) or its mixts. with other comonomers in aqueous medium in the presence of polymerization initiators and ethylene trithiocarbonate, phenothiazine (II), and/or thiocarbonylthioamide. Thus, 2.25% 2,2'-azobis(2-amidinopropane) 24C1 salt aqueous solution 5, 0.45% triethylenetetraamine aqueous solution 5, and 0.09% (NH4)2S2O8 aqueous solution 5 g

were quickly and successively mixed with 980 g a mixture of 50% aqueous solution (pH 7.0) of 1 360, acrylic acid 45, and II 0.00011 g and kept overnight to give a powdered copolymer (mol. weight 1250 + 104) with good water solubility

IT 822-38-8 Ethylene trithiocarbonate

RL: USES (Uses)

(use of polymers) in preparation of high mol. weight and water-soluble acrylamide

RN 822-38-8 CAPLUS 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)



1.7 ANSWER 37 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1990-60231 CAPLUS
 DOCUMENT NUMBER: 112-60231
 TITLE: Polymeric depressants for sulfide minerals

INVENTOR(S): Lipp, David W.; Negard, D. R.
 American Cyanamid Co., USA

PATENT ASSIGNEE(S): U.S., 10 pp.

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

US 4666150 A 19890912 US 1989-182681

EP 338276 A2 19891025 EP 1989-105098

EP 338276 A3 19900905

EP 338276 B1 19940518

R: DE, ES, GB, NL, SE T3 19940801 ES 1989-105098

ES 2053842 A 19891128 BR 1989-1808

BR 890108 A1 19960305 CA 1989-566738

CH 1338110 A1 19891019 AU 1989-33109

AU 8933109 A1 19891019

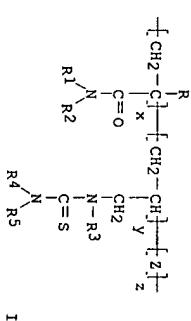
ZA 8902802 A 19910905

ZA 1989-2802

RU 9804342 C1 19931215 RU 1989-4613892

US 4888106 A 19891219 US 1989-383235

PRIORITY APPLN. INFO.: GI US 1988-182681 A 19880418



AB Acrylamide copolymer with allylthiourea are effective depressants for sulfide minerals in froth floatation of complex ores, and are suitable for separation of pyrite and pyrrhotite as Fe-rich gangue minerals. The Polymer structure is based on I having R, R1, and/or R2 as H or Cl-4 alkyl groups; R3 as H, Cl-4 alkyl, or aryl; R4 and R5 as H, Cl-4 hydrocarbon, and/or aryl; Z is the polymerization residue of a monomer; and x = 20-99, y = 1.0-30.0, and z = 0.50-0 mol. %. The polymer mol. weight is 103-106. The copolymer is optionally used with a surface-modifying agent and does not require high pH values. The monomers in Z are selected from acrylonitrile, styrene, or a cationic complex (especially diallyldimethylammonium chloride); acrylic, methacrylic, or maleic acids; or alkali metal salts or alkyl esters of the acids. Thus, a solution of acrylamide 9.0 and N-allylthiourea 1.0 dissolved in water 90 parts by weight was stirred for 30 min, heated to 50° under N, treated with aqueous (NH4)2S2O8 as the polymerization initiator, and reacted for 3 h. The resulting copolymer containing 6 mol % of allylthiourea showed mol. weight approx. 50,000. A similar copolymer having mol. weight approx. 6000 was tested at 0.80 lb/ton in froth floatation for cleaning of chalcopyritic ore concentrate containing 28.0 Cu and

3.15% Mo. The ore slurry included NaHS (a standard depressant) at 1.3 lb/ton solids, and was conditioned in 5 min. The floatation recovery of Mo was 82.6% at the concentrate grade of 21.1%, compared with 76.8-95% at 14.2-24.3% using only the standard NaHS at 3.7-6.87 lb/ton that required 15-min conditioning and was sensitive to oxidation by air in approx. 2 min during the floatation.

IT

90980-77-1 534-18-9, Sodium trithiocarbonate

RI: PROC (Process)

(flotation depressants with polymer and, for sulfide ores)

RN 90980-77-1 CAPIUS

Propionic acid, 3-(dithiocarboxy)thio- (9CI) (CA INDEX NAME)

HO₂C—CH₂—CH₂—S—CS₂HRN 534-18-9 CAPIUS
CN Carbonotrihioic acid, disodium salt (9CI) (CA INDEX NAME)

●2 Na

L7 ANSWER 38 OF 49 CAPIUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1986-200224 CAPIUS
DOCUMENT NUMBER: 104:200224TITLE: Selenium and sulfur compounds for treating drug
addiction

INVENTOR(S): Revici, Emanuel

PATENT ASSIGNEE(S): Avram, Elena, USA

SOURCE:

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:PATENT NO. KIND DATE APPLICATION NO. DATE
----- ----- ----- -----
US 4565690 A 19860121 US 1985-722493 19850412

WO 8005918 A1 19861023 WO 1985-US699 19850418

RW 8005918 AT, BE, CH, DE, FR, GB, IT, LU, NL, SE

EP 217793 A1 19870415 EP 1985-902309 19850418

R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE

CA 1282337 A1 19910402 CA 1985-508562 19860414

PRIORITY RPPN. INFO.: US 1985-722493 A, 19850412

AB Drug addiction in humans, particularly the symptoms of withdrawal, is treated by administration of a lipid-soluble compound containing bivalent neg.

Se or S to counteract the effects of abnormal fatty acids produced in addicted individuals. Examples of such compds. are organic seesters, Se-containing fatty acids, selenized or sulfurized oils, thiosulfates, organic lipid sulfides, disulfides, or mercaptans, thioglycerols, and thioglycols.

IT R: BIOL (Biological study)
(in drug addiction treatment)

RN 822-38-8 CAPIUS

CN 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)



L7 ANSWER 39 OF 49 CAPIUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983-35521 CAPIUS

DOCUMENT NUMBER: 98:35521

TITLE: Epoxy resin thermosetting compositions

INVENTOR(S): Asahi Denka Kogyo K. K., Japan

PATENT ASSIGNEE(S): Jpn. Kokai Tokkyo Koho, 8 pp.

SOURCE: CODEN: JURXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:PATENT NO. KIND DATE APPLICATION NO. DATE
----- ----- ----- -----
JP 57102922 A2 19820626 JP 1980-178451 19801217

JP 63012094 B4 19880317

PRORITY RPPN. INFO.: AB Thermosetting compns. comprising cationically polymerizable organic substances, nonnucleophilic Lewis acids (or onium salts of strong acids), and tertiary alc. carboxylates, organic peroxides, thiocarbonyl derivs.,

organic polyulfides, metal acetylacetones, aromatic-substituted vicinal diols, Pb peroxates, quinone derivs., and/or C6H5IO are polymerizable in a short time to give cured products with good properties. Thus, a mixture of ER-422 (250B5-98-7) 100,

S-(ethoxycarbonylmethyl)tetramethylenebenzonitrile hexafluorosenate (I) [84-58-2] 3 parts (8419-20-8) 3, and 2,3-dicyanoquinoxine (II) [84-58-2] 3 parts gelled in 5 s at 150°, compared with 6 min when I was omitted.

IT 71980-71-1 RL: CCR (Catalyst use); USES (Uses)
(crosslinking catalysts, with nonnucleophilic Lewis acids, for epoxy resins)

RN 71980-71-1 CAPIUS

CN Carbonotrihioic acid, 1,1-dimethylethyl 2-oxo-2-phenylethyl ester (9CI) (CA INDEX NAME)

PATENT NO. KIND DATE APPLICATION NO. DATE
----- ----- ----- -----
Ph—C—CH₂—S—C—SBu-t:

L7 ANSWER 40 OF 49 CAPIUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1972-565331 CAPIUS

DOCUMENT NUMBER: 77:163831 Delayed-action vulcanization accelerator system

TITLE: Saito, Raymond C.; Taylor, Ray D.

INVENTOR(S): Goodrich, B. F., Co.

PATENT ASSIGNEE(S): U.S., 7 pp.

SOURCE: CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:PATENT NO. KIND DATE APPLICATION NO. DATE
----- ----- ----- -----
US 3992719 A 19720919 US 1970-96926 19701210

CA 946092 A1 19740423 CA 1971-128025 1971118

JP 5028110 B4 19760817 JP 1971-10102 1971120

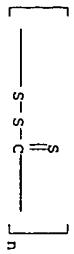
PRIORITY RPPN. INFO.: AB A blocked isocyanate-polythiocarbonate mixture was a delayed

action accelerator for unsatd. rubbers. Thus, an SBR-butadiene rubber vulcanization mixture containing polytrithiocarbonate [32198-31-5] and the reaction product of toluene diisocyanate [26411-62-5] and diamethylamine [124-40-3], milled at 150.deg. F for 5 min and then vulcanized at 360.deg. F, had a cure time of 1.60 and a scorch time or 0.62 compared with 2.75 and 1.30 for the mixture vulcanized in the absence of the blocked isocyanate and polythiocarbonate.

IT 32198-31-5

RL: USES (Uses)

(vulcanization accelerator systems containing)
32198-31-5 CAPLUS Poly(dithiocarbonothioyl) (9CI) (CA INDEX NAME)



Z

L7 ANSWER 41 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN

AB DOCUMENT NUMBER:

74:13972 CAPLUS

TITLE:

Effect of heat aging resistance on the chemical structure of polyepichlorohydrin rubber

AUTHOR(S):

Mori, Kunio; Nakamura, Yoshiro

CORPORATE SOURCE:

Fac. Eng., Iwate Univ., Morioka, Japan

SOURCE:

Kogyo Kagaku Zasshi (1970), 73(1), 1515-19

DOCUMENT TYPE:

Journal

LANGUAGE:

Japanese

GI For diagram(s), see printed CA Issue.

AB Polyepichlorohydrin rubber was vulcanized for intensifying the heat-aging resistance by new vulcanizing agents, i.e., Na₂S·9H₂O-S, H₂NCH₂CH₂NH₂-MgO-S, Na₂CS₃-S, and KSCN-MeCO-Me₂. The relation of crosslinking structure to heat-aging resistance of the vulcanized rubbers was studied. The heat-aging resistance of the vulcanizates was compared with that of a vulcanizate containing H₂NCH₂CH₂NH₂-MgO (I). The above-mentioned vulcanizing agents produced the crosslinking structures -S₂-J-, -NH₂CH₂NH-, -SC(=S)-, and II, resp. The rubbers produced were phys. stronger than I, which gave a rigid vulcanizate with low elongation and superior heat-aging resistance.

IT 534-18-9

RL: USES (Uses)

(chloroepoxy)propane rubber crosslinked by, heat-aging properties of)

CN RN 534-18-9 CAPLUS Carbonotriethioic acid, disodium salt (9CI) (CA INDEX NAME)



●2 Na

L7 ANSWER 42 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1968-436568 CAPLUS
DOCUMENT NUMBER: 69:36968
TITLE: Electron-microscopic investigations on rayon fiber surfaces. I. Preparation technique for surface

replicas of wet fibers
Grothe, Annalise; Maron, Reinhard; Rose, Klaus Peter;
Deut. Akad. Wiss. Berlin, Teitow-Seehof, Fed. Rep.
Ger. Faserforschung und Textiltechnik (1968), 19(6), 253-8
CODEN: FSTXAT; ISSN: 0014-8628

AUTHOR(S):

Leon S., Jr.; Auda, Richard S.; Bannister, Eric

CORPORATE SOURCE:

Esso Research and Engineering Co.

SOURCE:

Fr., 10 pp.

DOCUMENT TYPE:

Patent

LANGUAGE:

French

FAMILY ACC. NUM. COUNT:

1

PATENT INFORMATION:

ACCESSION NUMBER:

1968-69892 CAPLUS

DOCUMENT NUMBER:

68:61892

INVENTOR(S):

Baldwin, Francis P.; Pavlick, Michael A.; Minckler,

PATENT ASSIGNEE(S):
SOURCE:

Leon S., Jr.; Auda, Richard S.; Bannister, Eric
Fr., 10 pp.

DOCUMENT TYPE:

Patent

LANGUAGE:

French

FAMILY ACC. NUM. COUNT:

1

PATENT NO.:

19670713

KIND:

FR

DATE:

DE

GB:

GB 1128105

PRIORITY APPN. INFO.:

US 19650609
19651203

AB Easilly manipulatable mastics are prepared by halogenating low-mol.-weight, weakly unsatd. Polymers and vulcanizing the halogenated Polymer in the presence of various stabilizing, vulcanizing, and accelerating agents. Thus, a copolymer containing 94.6 mole % isobutylene and 5.1 mole % isoprene was prepared by polymerizing the monomers 20 min. at -56.5° in the presence of EtAlCl₂ in hexane. The Polymer solution was chlorinated at ambient temperature to give a Polymer having number-average mol. weight 9.30 and containing 6.13 mole % Cl. The chlorinated Polymer 100, carbon black 50, SnCl₂·2H₂O 2.5,

and 1,4-butanedithiol 2 parts was vulcanized for 30 min. at 90° and aged for 4 days to give a mastic having 100% modulus 26 kg./cm.², tensile strength 52.3 kg./cm.² and 30% elongation. The mastic could be

dimercaptocacetate, Zn trimethylolene dimerceptide, BuSSuS, ethylene trithiocarbonate, tetraethylenepentamine, or N,N-dibutylthiourea.

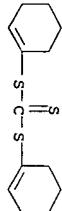
(as crosslinking agent for chlorinated isop
polymers)
822-39-8 CAPLU
1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 1957:421475 CAPPU
DOCUMENT NUMBER: 67:21475
TITLE: Organic sulfur compounds (hetero)
LXIII. Chemistry of thiocyclohexane
Morgenstern, Johannes; Mayer, I.
Tech. Univ., Dresden, Germany
CORPORATE SOURCE: Journal fuer Praktische Chemie
SOURCE: 34(1-4), 116-138

JOURNAL: German
 LANGUAGE: German
 OTHER SOURCE(S): CASREACT 67:21475
 GI For diagram(s), see printed CA issue.
 CA 66: 37087w, 94794w. Thiocyclohexanone (I) exists
 the red oxo form (Ia), b1.5-55-63, n20D 1.551,
 AB

CA 66: 7054u, 94784w. Thiocyclohexanone (I) exists in tautomeric forms, the red oxo form (Ia), b₁.5-55-63°, n_{D20} 1.5351, and the colorless enol form (Ib), b₂₇-8-70-1, n_{D20} 1.5230. On standing Ia lost its red color and formed a dimer and a Polymer. The trimer, m. 102-3°, was formed by acid catalysis or by strongly polar solvents, but not by self-polymerization. Ib did not polymerize as readily. The K salt (III) of Ib formed colorless leaflets, hydrolyzed readily and when heated with water formed Ia. Pb and Hg salts were relatively unstable. II reacted with alkyl halides or with diazoalkanes in absolute ether to form thio ethers, which are stable to bases, but which hydrolyze with heating to Ia and mercaptans. The following sulfides (IIa) were prepared [R and b.p./°mm. given]: Et, 86-7/17-18 (n_{D20} 1.5171); iso-Pr, 90-12-13 (n_{D20} 1.5074); benzyl, 123-6°/0.9-1. (m. 26-5°, PhC), (m. 106-8°, CH₂COEt), 102-3°/0.8-1.0 (n_{D20} 1.5083); CH₂CH₂COEt, 94-5-5.5°/0.8-0.9 (n_{D20} 1.5013); CH₂CH₂H, 103-5°/1.2-1.3 (n_{D20} 1.5417); CH₂CH₂CN, 120-2°/1.1-1.3 (n_{D20} 1.5327); CH₂CH₂Bz, 90-1°/70.8-1.0 (n_{D20} 1.5540). Reaction of II with 1,2-dibromoethane produced IIa [R = Ph-(1-cyclohexen-1-ylthioethyl)], m. 16-20°. Reaction of II with 2,4-dinitrochlorobenzene produced IIa [R 2,4-(O₂N)₂CO₂H] 26H3], m. 160-1°. Ac₂O, ClCO₂, BzCl, diphenylacetyl chloride, and CICH₂COCl (III) reacted with II to form thio esters (IIa) of Ib, resp., as follows (R and b.p./°mm. given): Ac, 60-5-63°/0.4-0.6 (n_{D20} 1.5230); EtOC₂, 75-8°/0.4-0.5 (n_{D20} 1.5050); Bz, 140-3°/0.5-0.7 (n_{D20} 1.5572); PhClCO₂ (m. 49-51°), ClCH₂CO, 92-5°/0.7-0.8 (n_{D20} 1.5553). The thio ester of III reacted with more II to produce IIa [R = 1-(cyclohexen-1-ylthioacetyl)], b₉-9-1.0 175-6°. Thiophosgene reacted with II to produce 47% di-1-cyclohexen-1-yl trithiocarbonate, m. 58-9°. Addition of II to epoxides proceeded readily. Addition



to cyclohexene oxide produced IIa ($R = 2$ -hydroxycyclohexyl), IIa ($R =$ CH₂CH₂OH), bI-4-1-5, 111-13°, n_D²⁰ 1.5400, which by heating 48 hrs. with concentrated H₂SO₄ produced 2,2-pentamethylene-1,3-oxathiolane, bI-5-1-7 66-7°, n_D²⁰ 1.5168. Excess IV produced IIa ($R =$ CH₂CH₂CH₂CH₂OH), bI-2-1-4 139-43°. Reaction of I with cyclohexene sulfide yielded IIa ($R =$ 2-mercaptopcyclohexyl) (VI), bO-0.42 135-8°, the derivative of which with 2,4-dinitrochlorobenzene m. 105-7°. V after keeping 24 hrs. changed to 2,2-pentamethylene-4,5-tetramethylene-1,3-dithiolane, m. 78-80°. Ethylenimine reacted smoothly with I to form 2,2-pentamethylene-1,3-thiazolidine, b2-0-2.2 89-90°, n_D²⁰ 1.5410, which was benzoylated to give 3-benzoyl-2,2-pentamethylene-1,3-thiazolidine, m. 136-85°. Warming I with CS₂ in absolute benzene and subsequently heating with benzyl bromide produced 1-[1-cyclohexen-1-yl]benzyl trithiocarbonate, m. 33-3.5°. Reaction of I with phenyl isocyanide produced S-1-cyclohexen-1-yl phenylthiocarbamate, m. 163-7°. Reaction of I with diphenylketene produced S-1-cyclohexen-1-yl diphenylmaloacetate m. 49-52°. In alkaline solution BzH it produced first 1,3-dibenzal-2-cyclohexanone, m. 117-19°. Upon removal of this and concentrating, benzaldehyde di-1-cyclohexen-1-yl mercaptal, m. 128-30°, precipitated Up⁺ using nitrobenzaldehyde the corresponding nitro compound, m. 152-3°, was produced. By heating I with tetramethylthiuram disulfide, dimethylammonium hydrolyzed in hot water to cyclohexanone. Alcohols of I with absolute EtOH filtrate concentrated to yield 30% 4,5-tetramethylene-1,3-dimethyl-2-thione, m. 81-3°. Reaction of I with aniline in dioxane gave cyclohexanone phenylamine, bI-1.6 105-8°, n_D²⁰ 1.5556, and with phenylhydrazine gave cyclohexanone phenylhydrazone, m. 73-6°. Similarly the oxime and semicarbazone of cyclohexanone were prepared. Piperidine with I produced piperidinocyclohexane, b3-5 93.5-95°, n_D²⁰ 1.5146. I was hydrolyzed in hot water to cyclohexanone. Treatment of I with absolute EtOH and H₂S gave 1,1-dimercapto-cyclohexane, b2.3°, n_D²⁰ 1.5449. MSH gave 1-mercaptop-1-(methylthio)cyclohexane (VII), bI-1.1-2 65.5-67°, n_D²⁰ 1.5451, and similarly 1-mercaptop-1-(ethylthio)cyclohexane, b0-2-4 67-8°. (CH₃SH)₂ gave deep red 1-mercaptop-1-(β -mercaptoethylthio)cyclohexane (VIII), bI-3.1-6 68-90°. Treatment of VII with diazomethane produced 1,1-bis(methylthio)cyclohexane (VII), b2-3.2 96.8°, n_D²⁰ 1.5388. Similarly, treatment of VII with diazomethane followed by permanganate oxidation to yield the trisulfide, 2,7-trithia3,3-pentamethyleneoctane 2,2,4,4',7,7-hexoxide, m. 117-20°. A mixture of VI and benzylmercapto-*c* in benzene with p-toluenesulfonic acid yielded 1-methysulfonyl-1-benzylsulfyl-cyclohexane, m. 137-40°. Heating I with malononitrile produced cyclohexylidenemalononitrile. Reduction of I with Al amalgam in moist ether yielded cyclohexylmercapto, m. 147-8°. Reduction of I with absolute EtOH, sulfur, and Et₃N produced 3,3-5:5-bis(2-pentamethylene-2,4-trithiolane, m. 49-50°. Reduction of I with N-bromosuccinimide in absolute benzene yielded 1,2,3,4,5,6,7,8-octahydrodibenzothiophene bI-1.5 122-5°, which crystallized to a colorless solid, m. 29-31°.

1586-88-6P **1586-95-3P**

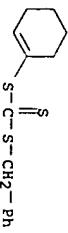
(Preparation of Synthesis Preparation); PREP (Preparation)

RI: SFP (Synthetic preparation); (Preparation of Preparation)

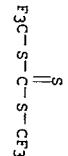
1586-88-6 CAPUS

Carbonic acid, trithio-, di-1-cyclohexen-1-yl ester (BCI) (CA INDEX NAME)

RN 15786-95-5 CAPLUS
CN Carbonic acid, trithio-, benzyl 1-cyclohexen-1-yl ester (8CI) (CA INDEX NAME)



RN 461-08-5 CAPLUS
CN Carbonotriethioic acid, bis(trifluoromethyl) ester (9CI) (CA INDEX NAME)



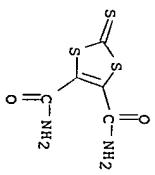
17 ANSWER 45 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1966119057 CAPLUS
DOCUMENT NUMBER: 64:19057
ORIGINAL REFERENCE NO.: 64:3446e-f
TITLE: Tetrafluorothiirane
AUTHOR(S): Brasen, W. R.; Cripps, H. N.; Bottomley, C. G.; Farlow, M. W.; Krespan, C. G.; E. I. du Pont de Nemours & Co., Inc., Wilmington, DE
CORPORATE SOURCE: Journal of Organic Chemistry (1965), 30(12), 4188-93
SOURCE: CODEN: JOCHEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal

LANGUAGE: English
OTHER SOURCE(S): CASREACT 64:19057
AB Pure tetrafluorothiirane has good stability to heat and ultraviolet light. Free-radical attack occurs at S with ring opening. The radical intermediate so formed can participate efficiently in chain reactions by adding to an olefin, attacking another molecule of tetrafluorothiirane, or abstracting H from a substrate. Ring opening is also induced by nucleophiles, but by attack on C rather than S. This can result in cycloaddn. reactions with unst mol. such as ketones or formation of thioacetic acid derivs. with stronger bases. Aluminum chloride, a powerful electrophile, causes unusual isomerization and condensation reactions.

IT 461-08-5 Carbonic acid, trithio-, bis(trifluoromethyl) ester (preparation of)
RN 461-08-5 CAPLUS
Carbonotriethioic acid, bis(trifluoromethyl) ester (9CI) (CA INDEX NAME)

S
||
F3C-S-C-S-CF3

17 ANSWER 46 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1966119056 CAPLUS
DOCUMENT NUMBER: 64:19056
ORIGINAL REFERENCE NO.: 64:3446e-e
TITLE: Reduction of unsatuated α -oxides by trialkylstannanes
AUTHOR(S): Bryskovskaya, A. V.; Al'bitskaya, V. M.; Petrov, A. A.
CORPORATE SOURCE: Leningrad Inst., Leningrad
Zhurnal Obschei Khimii (1965), 1(10), 1898-9
CODEN: ZOKHA4; ISSN: 0044-460X
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 64:19056
AB 1,2-Epoxy-3-butene and Et3SnI gave 50% mixed MeCH₂C(CH₂OH) and CH₂CH(CH₂CH₂OH), b. 118-20°, d₂₀ 0.8572, n_{D20} 1.4268, along with (Et₃Sn)₂. Isoprene oxide similarly gave 2-methyl-1,2-buten-1-ol and 2-methyl-3-buten-1-ol, b. 122-6°, 0.860, 1.4368.
IT 461-08-5, Methanethiol, trifluoro-, trithiocarbonate

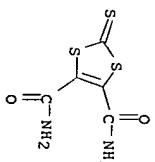


17 ANSWER 47 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 196542450 CAPLUS
DOCUMENT NUMBER: 63:24650
ORIGINAL REFERENCE NO.: 63:4431-d
TITLE: 2-(P-Dimethylaminophenyl)-1,3-dithiolium iodide
INVENTOR(S): Klinsberg, Erwin
PATENT ASSIGNEE(S): American Cyanamid Co.
SOURCE: 2 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3187009	I	19650601	US	19630305

GI For diagram(s), see printed CA Issue.
The title compound (I) gave bright pink dyeings on Polyacrylonitrile fiber. A solution of 0.130 mole of 4,5-dicyano-1,3-dithiobutene-2-thione in 160 ml. concentrated HCl was stirred for 5 days to give bright yellow 1,3-dithiole-2-thione-4,5-dicarboxamide (II), recrystd. from Pime. A solution of 0.12 mole of II in 200 ml. concentrated HCl and 155 ml. H₂O was refluxed for 4 hrs. to give orange 1,3-dithiobutene-2-thione-4,5-dicarboxylic acid (III), m. 150-2°. (Pime). To a solution of 11.1 g. III in 85 ml. MeNO₂ was added 70 ml. MeI, and the mixture was refluxed for 8 hrs. to give 1,3-dithiole-2-thione-MeI (IV). A solution of 0.55 g. IV, 0.55 ml. PhNM₂, and 10 ml. HOAc was heated on the steam bath 1 hr., cooled, and filtered to give 0.37 g. I, violet needles, m. 220-1°. (HOK).

IT 1008-61-3, Carbonic acid, trithio-, cyclic ester, with 2,3-dimercaptolamamide 1008-62-4, Maleic acid, dimercapto-, cyclic trithiocarbonate (preparation of)
RN 1008-61-3 CAPLUS
CN 1,3-Dithiole-4,5-dicarboxamide, 2-thioxo- (9CI) (CA INDEX NAME)



17 ANSWER 47 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 196542450 CAPLUS
DOCUMENT NUMBER: 63:24650
ORIGINAL REFERENCE NO.: 63:4431-d
TITLE: 2-(P-Dimethylaminophenyl)-1,3-dithiolium iodide
INVENTOR(S): Klinsberg, Erwin
PATENT ASSIGNEE(S): American Cyanamid Co.
SOURCE: 2 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

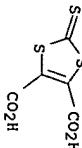
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3187009	I	19650601	US	19630305

GI For diagram(s), see printed CA Issue.
The title compound (I) gave bright pink dyeings on Polyacrylonitrile fiber. A solution of 0.130 mole of 4,5-dicyano-1,3-dithiobutene-2-thione in 160 ml. concentrated HCl was stirred for 5 days to give bright yellow 1,3-dithiole-2-thione-4,5-dicarboxamide (II), recrystd. from Pime. A solution of 0.12 mole of II in 200 ml. concentrated HCl and 155 ml. H₂O was refluxed for 4 hrs. to give orange 1,3-dithiobutene-2-thione-4,5-dicarboxylic acid (III), m. 150-2°. (Pime). To a solution of 11.1 g. III in 85 ml. MeNO₂ was added 70 ml. MeI, and the mixture was refluxed for 8 hrs. to give 1,3-dithiole-2-thione-MeI (IV). A solution of 0.55 g. IV, 0.55 ml. PhNM₂, and 10 ml. HOAc was heated on the steam bath 1 hr., cooled, and filtered to give 0.37 g. I, violet needles, m. 220-1°. (HOK).

IT 1008-61-3, Carbonic acid, trithio-, cyclic ester, with 2,3-dimercaptolamamide 1008-62-4, Maleic acid, dimercapto-, cyclic trithiocarbonate (preparation of)
RN 1008-61-3 CAPLUS
CN 1,3-Dithiole-4,5-dicarboxamide, 2-thioxo- (9CI) (CA INDEX NAME)

1,3-Dithiole-4,5-dicarboxylic acid, 2-thioxo-

(9CI) (CA INDEX NAME)



L⁷ ANSWER 48 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1962:60494 CAPLUS
 DOCUMENT NUMBER: 56:60494
 ORIGINAL REFERENCE NO.: 56:11527c-i,11528c-d
 TITLE: Amiolytic and esterification of unsymmetrical epoxides

AUTHOR(S): Colclough, T.; Cunnien, J. I.; Moor, C. G.
 CORPORATE SOURCE: Nat. Rubber Producers Research Assoc., Welwyn Garden City, UK
 SOURCE: Tetrahedron (1961), 15, 187-92

DOCUMENT TYPE: CODEN: TETRAB; ISSN: 0040-4020
 Journal: TETRAB

LANGUAGE: English
 Unavailable

AB The reactions of 1,2-epoxy-propane (I) and 2-methyl-2,3-epoxypropane (II) with various primary and secondary amines and with hexahydrophthalimide (III) in the presence of hydroxylic catalysts were studied. Interaction of Me₂C: CH₂ and BzO₂H in CH₂Cl₂ at 0-5° and fractionation through a 40-plate column yielded 80% II, b₇₆ 9.2-7.8°, n_D²⁰ 1.3054. LiAlH₄ reduction of ClCH₂COMe gave ClCH₂CHMeOH (IV), b₁₁ 76.4-7.4, n_D²⁰ 1.4401. Similar reduction of MeCH₂COCl gave MeCH₂CH₂OH (V), b₇₀ 69.2-9.8, n_D²⁰ 1.4394. Treatment of Me₂C: CH₂ with HOCl according to Wilson and Lucas (CA 31, 6578) yielded EtCH₂CH₂OH (VI), b₈₄ 92-9, n_D²⁰ 1.4445. Recrystn. from alc. and drying at 70°/0.1 mm. gave C₅H₁₁N-HCl, m. 242°. Other amine HCl salts were recrystn. from MeOH-Et₂O mixtures.

III b₁₅ 146°, m. 36-7°. Interaction of 2 moles C₅H₁₁N and 1 mole IV 16 hrs. at 140° in vacuo yielded 86% C₅H₁₀NC₂H₅COMe (VII), b₄₀ 105-10°; HCl salt, m. 159°. A comparable reaction with V gave 40% C₅H₁₀NC₂H₅COH (VIII), b₅₀ 118°, n_D²⁰ 1.4880; HCl salt, m. 117-19°. The infrared spectra of VII and VIII differed slightly but the 2 types of OH groups were indistinguishable. Treatment of 1 mole VI with 2 moles C₅H₁₁N 12 hrs. at 140° in vacuo yielded 94% MeCH₂(C₅H₁₁N)CH₂CO₂H (IX), HCl salt, m. 152°. All reactions of epoxides with amines were conducted in sealed tubes in vacuo. Reaction products were analyzed for secondary and tertiary amino groups by the dithiocarbamate and potentiometric titration methods, resp. The products resulting from treatment of II with amines at 140° in the presence or absence of catalyst were tabulated. Amiolytic analysis of II occurred with primary alkylamines but not with NHEt₂. BuNH₂ reacted only in the presence of PhOH. Primary alkyl diamines were more reactive than BuNH₂ and yielded both mono- and diadducts by reaction with 1 or 2 moles II. Reaction of C₅H₁₁ONH with II in the presence of 1 mole PhOH 40 hrs. at 140° yielded 100% IX. Equimolar ams. of I and C₅H₁₁ONH heated 16 hrs. at 140° gave 100% VII. Comparable reaction of 1 mole I with 1 mole C₅H₁₁-NH, HCl, 1 mole C₅H₁₁ONH, 0.1 mole PhOH, and 1 mole C₅H₁₁ONH, 1 mole PhOH, and 1 mole H₂O all gave VII. I (8.32 g.), 11.01 g. III, and 0.43 g. H₂O heated 2.5 hrs. at 140° in vacuo, the viscous product distilled at 140°/0.01 with recovery of 11% unreacted I, the residue treated with aqueous NaOH, and extracted with Et₂O gave 12.2 g. low polymer ester of a 2:1 epoxide-dicarboxylic acid mixture, v 3550, 1750, 1170 cm.⁻¹. Acidification of the aqueous alkaline extract gave condensation product, mol. weight 390. I (7.22 g.), 5.54 g. III, and 0.27 g. H₂O heated 4 hrs. in vacuo at 140° and the product distilled gave 1.8 g. Et₂O:CH₂, b. below 80°, 1.6 g. unidentified product, b. 0.07 26-37°, and 8.3 g. viscous impure bis(2-hydroxy-2-methyl-3-pentyl)

hexahydrophthalate, with infrared spectrum of a hydroxy- or half-ester. PrCMe₂OH (X) (2 moles) and 1 mole III heated 4 hrs. at 140° gave 4.7 g. volatile fraction consisting of 0.7 g. PrCMe₂CH₂ and 3.8 g. EtCH₂:CHMe₂, and 4.1 g. residual hexahydrophthalic acid, m. 182-4°. X (2 moles) heated 4 hrs. with 1 mole EtCH₂:CO₂H at 140° gave 96% (CH₂OEt)₂ and 7.15 g. volatile mixture, b. 54-70°, comprising H₂O and a mixture of 0.7 g. Pr-CMe₂CH₂ and 4.8 g. EtCH₂:CHMe₂. Reaction mechanisms were discussed briefly.

IT 822-38-6, carbonic acid, trithio-, cyclic ethylene ester
 (preparation of)
 RN 822-38-8 CAPLUS
 CN 1,3-Dithiolane-2-thione (9CI) (CA INDEX NAME)



L⁷ ANSWER 49 OF 49 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1955:55464 CAPLUS
 DOCUMENT NUMBER: 49:55464
 ORIGINAL REFERENCE NO.: 49:1066cc-e
 TITLE: Waterproof proteinous adhesives

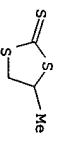
INVENTOR(S): Jarvi, Reino A.
 PATENT ASSIGNEE(S): Monsanto Chemical Co.

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PARENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2705680	19550405	1955-04-19	US	

AB Dry compns. which form water proof plywood adhesives in solution are prepared by mixing a vegetable or animal proteinaceous material with 0.1-5.0% of an alkylene triethiocarbonate (II). The waterproofing is such that a 3-ply plywood panel bonded with these adhesives can be soaked for 48 hrs. in cold water or for 8 hrs. in boiling water without separation. A typical formulation consists of soybean flour 965 and ethylene triethiocarbonate 10 in pine oil 10 and diesel oil 15 parts. One hundred parts of this composition is dissolved in mixture of water 34.2, Ca(OH)₂ 12, NaOH 8, and com. Na silicate 25 parts. Alkaline compds. may be included in the dry mix. These adhesives have higher dry and wet strengths than similar compds. prepared without I. The I also act as anti-foamers and are nonvolatile, relatively nonflammable, and free of objectionable odor.

IT 3489-45-0, 1,2-Propandithiol, cyclic thiocarbonate
 (mixture with proteins, adhesives from)
 RN 3489-45-0 CAPLUS
 CN 1,3-Dithiolane-2-thione, 4-methyl- (9CI) (CA INDEX NAME)



5.7 g. condensation product, mol. weight 390. I (7.22 g.), 5.54 g. III, and 0.27 g. H₂O heated 4 hrs. in vacuo at 140° and the product distilled gave 1.8 g. Et₂O:CH₂, b. below 80°, 1.6 g. unidentified product, b. 0.07 26-37°, and 8.3 g. viscous impure bis(2-hydroxy-2-methyl-3-pentyl)

=> S TRITHOCAR? AND POLY? AND (TOUG? OR HARD? OR VINYL OR RESIN OR UNSAT? OR ACRYL? OR METHACR?)
 9. Et₂O:CH₂, b. below 80°, 1.6 g. unidentified product, b. 0.07 26-37°, and 8.3 g. viscous impure bis(2-hydroxy-2-methyl-3-pentyl)

3807615 POLY?

94521 TOUG?
557645 HARD?
399962 VINYL
569 VINYL

399226 VINYL
(VINYL OR VINYL)

587116 RESIN

392635 RESINS

722276 RESIN
(RESIN OR RESINS)

257023 UNSAT?

449249 ACRYL?

259040 METHACR?

131 TRITHIACR? AND POLY? AND (TOUG? OR HARD? OR VINYL OR RESIN OR
UNSAT? OR ACRYL? OR METHACR?)

=> S 1.8 AND EPOXY
226438 EPOXY
2531 EPOXIES
226759 EPOXY
(EPOXY OR EPOXIES)

L.9
11 1.8 AND EPOXY

=> D 1-11 IBIB ABS

L.9 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005-60003 CAPLUS

DOCUMENT NUMBER: 142:135563

TITLE: Toughened vinyl ester
resins

INVENTOR(S): Lepilleur, Carole A.; Egan, David R.; Weber, Carl D.

PATENT ASSIGNEE(S):

SOURCE: U.S. Pat. Appl. Publ., 57 pp., Cont.-in-part of U.S.

DOCID: USXXCO

Patent Ser. No. 681,679.

DOCUMENT TYPE:

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:
PATENT NO. KIND DATE APPLICATION NO. DATE
US 2005014910 A1 20050120 US 2004-762363 ← 20040219
US 6599699 B1 20050722 2000-505719 20000216
US 2003187138 A1 20031002 US 2002-219403 20020815
US 6894116 B2 20050517
US 2003120101 A1 20030626 US 2002-278335 20021023
US 2004073056 A1 20040415 US 2003-601619 20031008
WO 200500326 A1 20050901 WO 2005-US4527 20050214
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TZ, UA, UG, US, VN, YU, ZA, ZM, ZW
RM: BW, GH, GR, KE, LS, MM, MZ, NA, SD, SI, SZ, TZ, UG, ZM,
AZ, BY, KG, KE, MD, RU, TJ, TM, AT, BB, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BE, BJ, CF, CG, CL, CM, GA, GN, GO, GR, ML,
MR, NE, SN, TD, TG
US 2005267214 A1 20051201 US 2005-192282 20050728
PRIORITY APPN. INFO.: US 2000-505719 A2 20000216
US 2002-219403 A2 20020815
US 2002-218335 A2 20021023
US 2003-681679 A2 20031008

APPLICANTS

AB 94521 TOUG?
557645 HARD?
399962 VINYL
569 VINYL

399226 VINYL
(VINYL OR VINYL)

587116 RESIN

392635 RESINS

722276 RESIN
(RESIN OR RESINS)

257023 UNSAT?

449249 ACRYL?

259040 METHACR?

131 TRITHIACR? AND POLY? AND (TOUG? OR HARD? OR VINYL OR RESIN OR
UNSAT? OR ACRYL? OR METHACR?)

=> S 1.8 AND EPOXY
226438 EPOXY
2531 EPOXIES
226759 EPOXY
(EPOXY OR EPOXIES)

L.9
11 1.8 AND EPOXY

=> D 1-11 IBIB ABS

L.9 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004-97511 CAPLUS

DOCUMENT NUMBER: 140:47287

TITLE: Carbamic acid esters, base generators as curing
agents, compositions reactive to bases, and
applications of the compositions and their cured
products

INVENTOR(S): Utsu, Hiromi; Toriumi, Suguru; Miki, Yasuaki

PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 PP.

DOCID: JKKXAF

Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

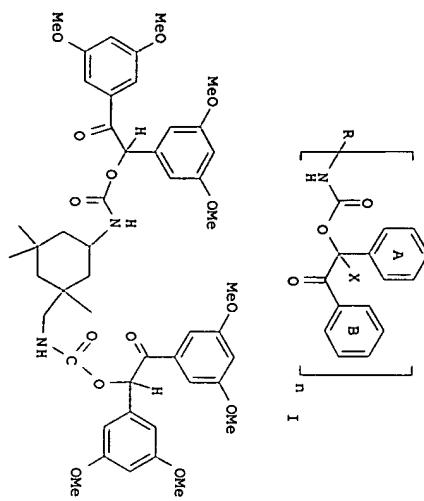
PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2004035413 A2 20040205 JP 2002-190103 20020628

PRIORITY APPN. INFO.: MARPAT 140:147287

OTHER SOURCE(S): JP 2002-190103 20020628

GI



hydrocarbyl; Cl-18 alkoxy; halo; A and B may contain substituents). The

comps., showing good curability, are useful for sealants and adhesives and the cured products are useful for optical materials and laminates. Thus, a composition comprising 4,4'-bis(2-hydroxybiphenylsulfone dithiobiglycidyl ether and II was applied on a PET film and cured by UV irradiation to give a transparent layer.

INVENTOR(S): John Ta-Yuan; Lepileur, Carole Angele; Weber,
PATENT ASSIGNEE(S): Diane; Egan, David; Richard; Filla, Deborah; Susan
SOURCE: Novelon IP Holdings Corp., U.S.A.
U.S. Pat. Appl. Publ. No. 30 pp., Cont.-in-part of U.S.

6,596,899.
USXXCO
Patent
English
APPLICANTS

APPlicants

L9 ANSWER 5 OF 11
 ACCESSION NUMBER: 2003-41113 CAPLUS
 DOCUMENT NUMBER: 139-8228
 TITLE: Water-thinned anticorrosive coatings with good storage
 stability and steel materials coated therewith
 INVENTOR(S): Sasaki, Motohiro; Saito, Koichi; Morishita, Atsushi;
 Takahashi, Akira
 PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan; Nippon Steel Corp.
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM.: COUNT: 1
 PATENT INFORMATION:
 CODEN: JXKXAF

US 6894116	A1	20031017	US 2002-219403	20020813
US 6958999	B2	20030517	US 2002-219403	20020813
US 200323006	B1	20030722	US 2000-505719	20000216
US 6962961	A1	20031218	US 2003-429323	20030505
US 200501910	A1	20050120	US 2004-782363	20040219
US 200500999	A1	20050113	US 2004-913972	2004080623
US 200512774	A1	20051201	US 2005-505749	20050728
PRIORITY APPLN. INFO.:			A2	20000216

AB	A toughener comprising a triethiocarbonate	US 2002-19403 US 2002-218335 US 2003-629233 US 2003-681679	A2 20020815 A2 20021033 A3 20031005 A2 20031008
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polymers, having an **epoxy** end group is described which is utilized with various thermosettable **polymers** such as **epoxy**, **polyurethane**, and the like. A **toughened** composition is made by curing the thermosettable **polymer** and the toughener utilizing various curing agents.

RECORD: ALL CITATIONS AVAILABLE IN THE RE FORMAT					
L9	ANSWER 4 OF 11	CAPLUS	COPYRIGHT 2006 ACS on STN		
ACCESSION NUMBER:	2003-411926	CAPLUS			
DOCUMENT NUMBER:	139-0231				
TITLE:					
INVENTOR(S):	Sasaki, Motohiro; Saito, Koichi; Morishita, Atsushi;				
PATENT ASSIGNEE(S):	Nippon Paint Co., Ltd., Japan; Nippon Steel Corp.				
SOURCE:	Jpn. Kokai Tokkyo Koho, 14 pp.				
DOCUMENT TYPE:	CODEN: JKXXAF				
LANGUAGE:	Patent				
FAMILY ACC. NUM. COUNT:	Japanese				
PATENT INFORMATION:					
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
-----	-----	-----	-----	-----	
JP 2003155454	A2	20030530	JP 2001-3531753	20011119	
PRIORITY APPLN. INFO.:			JP 2001-3531753	20011119	
AB	The coatings contain (a) 5-30% (as solid) water-thinned Polymer dispersions, (b) 0.1-20% silica particles, and (c) 0.01-5% guanidine compds. Thus, a water-thinned composition containing (a) a reaction product Kanebonol KD 5 (acrylic polymer), hydrogenated bisphenol A diglycidyl ether, and 3-glycidoxypromethylidemethoxysilane, (b) Snowtex N (silica), and (c) dipropyldoxypyroxytrichloroalaminotitanium, thiourea, and secondary ammonium phosphate was applied on a galvanized steel plate and baked to give a coated plate with improved adhesion and good solvent and alkali resistance.				
INVENTOR(S):	Sasaki, Motohiro; Saito, Koichi; Morishita, Atsushi; Takahashi, Akira				
PATENT ASSIGNEE(S):	Nippon Paint Co., Ltd., Japan; Nippon Steel Corp.				
SOURCE:	Jpn. Kokai Tokkyo Koho, 17 pp.				
DOCUMENT TYPE:	CODEN: JKXXAF				
LANGUAGE:	Patent				
FAMILY ACC. NUM. COUNT:	Japanese				
PATENT INFORMATION:					
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
-----	-----	-----	-----	-----	
JP 2003155451	A2	20030530	JP 2001-3531750	20011119	
PRIORITY APPLN. INFO.:	MARPAT 139-0228				
AB	Other The coatings contain (a) 5-30% (as solid) water-thinned Polymer dispersions, (b) 0.1-20% silica particles, and (c) 0.01-20% organic titanates. Thus, a water-thinned composition containing (a) a reaction				
product of					

Kanabinol KD-5 (acrylic polymer), hydrogenated bisphenol A diglycidyl ether, and 3-glycidoxypropylmethyldimethoxysilane, (b) Snowtex N (silica), and (c) diisopropoxybis(triethanolaminato)titanium, thiourea, and secondary ammonium phosphate was applied on a galvanized steel plate and baked to give a coated plate with improved adhesion and good solvent and alkali resistance.

L⁹ ANSWER 6 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002-770228 CAPLUS
DOCUMENT NUMBER: 137:95192

TITLE: A method of treating the surface of a substrate
INVENTOR(S): Polymerat Pty. Ltd., Australia
PATENT ASSIGNEE(S): Blakely, Idriss; Davy, Gary
SOURCE: PCT Int. Appl., 79 pp.
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. WO 2002079305
KIND A1
DATE 2002/01/10
APPLICATION NO. WO 2002-AU4165
DATE 2002/03/28
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CZ, DE, DK, DM, DZ, EC, ES, FI, GB, GE, GH,
GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, IC, IJ, IR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MM, MX, MZ, NO, NZ, OM,
PL, PT, RO, RU, SD, SG, SI, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZN, AM, AL, BY, KG, KZ, RU,
R: TJ, TM
RW: GH, GM, KE, LS, MM, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BB, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
BF, BJ, CG, CI, CM, GA, GN, GO, GU, ML, MR, NE, SN, TD, TG
US 2003088028 A1, 2003/05/08
US 68518309 B2, 2003/02/28
EP 1381828 A1, 2004/01/28
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
PRIORITY APPLN. INFO.: AU 2001-4048 A 2001/03/28
WO 2002-AU415 W 2002/03/28
AB Radicals are generated on functional and/or backbone portions of polymers forming part of a solid phase surface and/or sub-surface to generate a substrate for initiation of polymerization. The polymerization is conducted in the presence of a control agent which induces a dynamic population of anchored growing (in a controlled manner) and dominant polymeric chains each comprising ≥ 2 monomers. Polymers generated by this process include homopolymers and copolymers (comprising ≥ 2 monomers including terpolymers) such as inter alia block, graft, tapered, crosslinked and branched polymers. The substrate PMA 6100 was irradiated from Co-60 source, treated with TEMPO control agent, washed and dried, and graft polymerized with styrene at 80° for 16 h.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L⁹ ANSWER 7 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002-635892 CAPLUS
DOCUMENT NUMBER: 137:171126
TITLE: Water-thinned coating composition for treating metal surface
INVENTOR(S): Sasaki, Motohiko; Saito, Koichi
PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan

SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXX22
PATENT
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. WO 2002064056
KIND A1
DATE 2002/08/22
APPLICATION NO. WO 2002-3P1214
DATE 2002/02/14
W: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE, TR
JP 2002241157 A2 2002/08/28 JP 2001-37605 A 2001/02/14
JP 2001-37605 A 2001/02/14
PRORITY APPLN. INFO.: AB Title coating composition with good anticorrosion and adhesion comprises (A) aqueous dispersing resins 5-30 (solids content), (B) silica fine particles (e.g., Snowtex N) 1-10, (C) thioacarbonyl compds. (e.g., thioures) 0.02-5, and (D) phosphate ions 0.01-0.5 wt%, wherein A are obtained by neutralizing 230% of carboxyl groups with potassium ions in an ethylene-unsatd. carboxylic acid copolymer containing 10-30 wt% of the unsatd. carboxylic acid (e.g., Primacor 5980I) and then reacting the water-dispersed ionomer resin with epoxy compds. (e.g., Denacol 313).

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

PATENT NO. WO 2002-AU415
KIND A
DATE 1968-09/04 CAPLUS
APPLICATION NO. 1968-69104
DOCUMENT NUMBER: 68:69704
INVENTOR(S): De Acets, William
PATENT ASSIGNEE(S): Shell Oil Co.
SOURCE: U.S. 8 PP.
CODEN: USXXAM
PATENT
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO. US 33169040
KIND A
DATE 1968/02/13 US 1962-231832 1962/01/19
PRORITY APPLN. INFO.: US 1962-231852 A 1962/01/19
GI For diagram(s), see printed CA Issue.
AB The title compds. which are used as curing agents for polyepoxides and in adhesives for metal to metal bonding were prepared by treating a polythiirane with H₂S. Thus, CS₂ (240 parts) was added to a mixture containing 1500 parts KOH and 5500 parts MeOH at 30°. 4-Vinylcyclohexene dioxide (I) was pumped into the reaction vessel at 0.5 part/min. After the addition of 150 parts I, the mixture was stirred 60 hrs., 3000 parts H₂O was added, and excess CS₂ and MeOH were removed in vacuo at 30° to give yellow bis(trithiocarbonate) (III), m. 145-53°. II in 300 parts tetrahydrofuran was added to a mixture containing tetrahydrofuran 2000, Et₂O 500, LiAlH₄ 250 parts and the resulting mixture was refluxed 2 hrs. and cooled to 0°, and 1500 parts H₂O and 3000 parts concentrated HCl were added. The mixture was stirred 60 hrs. and the organic layer separated and worked up to give light yellow 1-11,2-dimercaptoethyl)-3,4-dimercaptohexane (III). Bisphenol A (IV) diglycidyl ether (IVa) was heated with an equivalent amount of III in the presence of 1% PdCH₂Ph₂ at 100° to give a hard insol casting. IV bis(2,3-dimercaptopropyl ether) (VI) was prepared by treating IV bis(2,3-epithiopropyl ether with H₂S in MeCN. Bis(2,3-dimercaptopropyl ether) (VII) was prepared by treating diglycidyl ether with CS₂ in the

presence of methanolic KOH followed by LiAlH₄ reduction V and VI treated with LiVa also gave polymers.

L9 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1967:55949 CAPLUS
 DOCUMENT NUMBER: 66:55949
 TITLE:
 INVENTOR(S): Lal, Jaginder
 PATENT ASSIGNEE(S): Goodyear Tire and Rubber Co.
 SOURCE: Fr.
 DOCUMENT TYPE:
 LANGUAGE:
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. 3345308
 KIND US
 DATE 19670000
 APPLICATION NO. 19640918
 DATE

PRIORITY APPN. INFO.: AB Mono-, di-, tri-, and tetrasubstituted oxiranes or thiranes were polymerized in the presence of a catalyst. Thus, 20 ml. propylene oxide (I) in 40 ml. n-heptane was purged with N for 2 min., 0.4 g. Zn-butyryl xanthate (II) added, the mixture purged with N for 1 min., the flask hermetically sealed and kept at 25° for 64 hrs. The polymer was stopped by the addition of 20 parts MeOH containing 0.2% phenyl-β-naphthylamin and, after drying under aspiration for 24 hrs. and under 2 mm. at 40° for 68 hrs., a I polymer with an intrinsic viscosity of 0.26 dL/g. was obtained. Other polymers and copolymers were prepared similarly (monomer or mixture of monomers, catalyst, and intrinsic viscosity of Polymer in dL/g. given):
 1-butene (III), II, 2,8; allyl glycidyl ether, II, 0.7; 1-octene, II, 0.5; I and vinylcyclohexene oxide, II, 3.6; II and vinylcyclohexene oxide, II, 1.9; I, Zn methoxymethylethane, II, 2.85; styrene oxide (IV) Zn tetramethylene xanthate, --, IV, Sr tetramethylene xanthate, --, IV, II, 4.6; propylene sulfide (V), Cd isopropylxanthate, 0.9; I, Methylmethacrylate, --, I, Zn methoxymethylethane, 3.4; 2-octene oxide, Zn methoxymethylethane, --; I, Zn isopropylxanthate, 2.1; Cd isopropylxanthate, 0.4; I, Fe isopropylxanthate, 0.8; I, Zn ethyl trithiocarbonate, 0.2; I, Zn dimethylidithiocarbamate (VI), 4; I, Zn pentamethylidithiocarbamate, 3.2; I, Zn dibenzylidithiocarbamate, 0.35; ethylene oxide, VI, 0.4; epichlorohydrin, VI, 0.5; V, VI, 0.26; V, Cd dimethylidithiocarbamate, 0.3; V, Cd pentamethylidithiocarbamate, 3.6; I, Zn thiobenzoate, 1.34; V, Zn thiobenzoate, 0.64; I, Zn dithiolsopropionate, 5.8; 2-octene oxide, Zn thiobenzoate, 0.2. I and allyl glycidyl ether were copolymerized in the presence of Zn isopropylxanthate and the vulcanized copolymer had a tensile strength of 75.57 kg./cm.², an elongation at break of 81%, and a 30% modulus of 8.85 kg/cm.². The catalyst compns. were also used as curing agents for epoxy resins.

L9 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1966:136018 CAPLUS
 DOCUMENT NUMBER: 65:36018
 ORIGINAL REFERENCE NO.: 65:67408-9
 TITLE:
 INVENTOR(S): Michael, Grigor
 PATENT ASSIGNEE(S): DEHYDRO Deutsche Hydrierwerke G.m.b.H.
 SOURCE: 5 pp.
 DOCUMENT TYPE:
 Patent

LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. 3345386
 KIND US
 DATE 19660412
 APPLICATION NO. 19620801

PRIORITY APPN. INFO.: AB A description is given of a self-regulating process for the electrodeposition of Cu, Zn, Ni, Pb, Sn, and Cd in the presence of electroplating-active organic additives which are difficultly soluble and are known to produce brightening, leveling, grain-improving, or porosity-preventing effects and contain, one or more N and (or) S-containing groups, such as thiourea, dithiocarbamic acid, triethiocarbamic acid, xanthic acid, thioumidoazole, or thiobenzimidazole, mercaptobenzothiazole, or mercaptobenzothiazole groups and other groups which contain a C attached only to hetero atoms, as well as azido, alkylendiamine, polyamide, and similar groups. Electrodeposition is conducted in an aqueous acid bath solution of an inorg. salt of the desired metal while continuously circulating the solution through a confined body of the active organic additive coated on a solid carrier and back to the bath. The

difficultly soluble organic compds. (whose saturation concentration amounts to 0.5-500 mg./l. of bath solution and whose critical concentration amounts to 1/2 of this saturation concentration) are mixed with 10-30% of a suitable solvent or a swelling agent, such as MeOH, EtOH, PROH, iso-PROH, acetone, Et₂O, MeOAc, EtOAc, BuOAc, xylene, pyridine, CH₂Cl₂, Cl₂C₆H₄, and H₂O alone or in combination with each other, and 1-10% of a thickening agent such as Me cellulose, carboxymethyl cellulose, polyvinyl acetate, poly(vinyl propionate) to form a paste which is applied onto the carrier such as spheres, Rasching rings, perforated disks made of glass, ceramic, porcelain, filter paper, or plastic resistant to chemicals. The coated carrier material may either be inserted into the solution filters or may be provided in the form of a column inserted in the recycling line.

L9 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1966:19056 CAPLUS
 DOCUMENT NUMBER: 64:19056
 ORIGINAL REFERENCE NO.: 64:3346-d-e
 TITLE: Reduction of unsaturated α-oxides by trialkylstannanes
 AUTHOR(S): Byskovskaya, A. V.; Al'bitskaya, V. M.; Petrov, A. A.
 CORPORATE SOURCE: Lensorvet Technol. Inst., Leningrad
 SOURCE: Zhurnal Obschchei Khimii, 1(10), 1898-9
 CODEN: ZOKH4; ISSN: 0044-460X
 DOCUMENT TYPE:
 LANGUAGE: Russian
 OTHER SOURCE(S): CASREACT 64:19056
 AB 1,2-EPOXY-3-butene and Et₃SnH gave 50% mixed MeCH₂CH₂OH and CH₂:CHCH₂CH₂OH, b. 118-20°, d₂₀ 0.8572, n_{D20} 1.4768, along with (Et₃Sn)₂. Isoprene oxide similarly gave 2-methyl-2-butene-1-ol and 2-methyl-3-butene-1-ol, b. 133-6°. 0.8630, 1.4368.

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